

103  
**REAUTHORIZATION OF THE FEDERAL  
WATER POLLUTION CONTROL ACT**

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(103-17)

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Reauthorization of the Federal Water... **INGS**

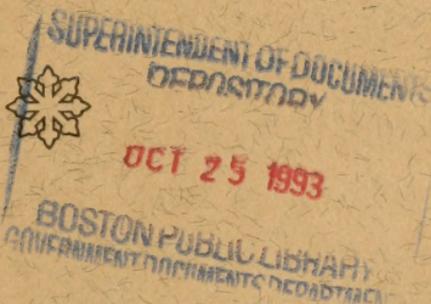
BEFORE THE  
SUBCOMMITTEE ON  
WATER RESOURCES AND ENVIRONMENT  
OF THE  
COMMITTEE ON  
PUBLIC WORKS AND TRANSPORTATION  
HOUSE OF REPRESENTATIVES  
ONE HUNDRED THIRD CONGRESS  
FIRST SESSION

FEBRUARY 23, 24, 1993 (SEWAGE TREATMENT NEEDS OF RURAL AND  
SMALL COMMUNITIES)

MARCH 31; APRIL 1, 21, 22; MAY 5, 11, 12, 1993

JUNE 30, 1993 (MANAGING WASTEWATER IN COASTAL URBAN AREAS)

Printed for the use of the  
Committee on Public Works and Transportation





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## HEARINGS

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## JUNE 30, 1993

(Managing Wastewater in Coastal Urban Areas)

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[Memorandum]

To: Members, Subcommittee on Water Resources and Environment.  
From: Douglas Applegate, Chairman.  
Subject: Summary of Subject Matter for hearings, February 23, 24,  
1993 on Sewage Treatment Needs of Rural and Small Commu-  
nities.

On February 23, and 24, 1993, the Subcommittee on Water Resources and Environment will commence its hearings for the 103rd Congress on issues concerning the reauthorization of the Clean Water Act by receiving testimony related to sewage treatment needs of rural and small communities. Testimony will be received from members of Congress, state interests, local interests, the regulated community, and public witnesses. It is expected that the testimony will discuss the difficulties faced by small and rural communities, the amount of their needs and methods to address them.

In the 102nd Congress, the Subcommittee held several hearings on issues concerning reauthorization of the Clean Water Act. Topics covered in those hearings included reauthorization generally, funding for wastewater treatment needs, sludge management, combined sewer overflows, non-point source pollution, stormwater, contaminated sediments, Great Lakes water quality, water quality monitoring, water quality standards, effluent guidelines, enforcement, coastal pollution, groundwater, pollution prevention, and water conservation. Those hearings have been published as Committee Print 102-31. In addition, the Subcommittee also received testimony on issues surrounding protection and restoration of wetlands resources under the Clean Water Act and other laws. These hearings have been printed as Committee Print 102-43. Many of the same topics covered in the hearings of the 102nd Congress will be the subject of hearings in the 103rd Congress. However, it is not expected that the Subcommittee will repeat all 19 days of hearings previously held.

#### BACKGROUND

The current federal water pollution control program has its origins in the Federal Water Pollution Control Act Amendments of 1972. The law was amended in 1977, 1981, and most recently in 1987 by the Water Quality Act of 1987. It provides for a major federal-state program to clean up the nation's waters. The Environmental Protection Agency has the major responsibility for carrying out the Act but parts of the program may be administered by the states if approved by EPA. The Act generally has two major areas of emphasis: regulatory provisions that impose progressively more stringent requirements on industries and cities to abate pollution and provisions that authorize federal financial assistance for municipal wastewater treatment plant construction.

The Act established a goal of eliminating the discharge of pollutants into navigable waters of the United States by 1985. As a step toward achieving this goal, the Act imposes technology based discharge control requirements on all discharges to navigable waters. Industries must meet a standard of best available treatment technology economically achievable for their discharges. For municipalities, secondary treatment (defined as an 85% reduction in conventional pollutant concentration) must be achieved. Additional limitations may also be imposed on dischargers where pollution levels in receiving waters continue to be too high to protect designated uses. EPA is responsible for defining what the required level of treatment is for municipalities and industry to meet their standards.

The law required that publicly owned treatment works (POTWs) achieve at least secondary treatment of their effluent by no later than July 1, 1988. To assist municipalities in meeting these deadlines, the law provided for grants to municipalities for the construction of wastewater treatment facilities. EPA has obligated approximately \$57 billion for this grant program since it originated in 1972. Until October 1, 1984, the federal share was 75% of the cost of construction. Since October 1, 1984, the federal share has been 55% of the cost of construction.

The 1987 amendments to the Clean Water Act phased out the grant program in favor of grants to states for the establishment of state revolving loan funds (SRFs). Those amendments authorized appropriations of \$8.4 billion to capitalize the state revolving loan funds. States must match each federal dollar with a minimum contribution of 20 cents to each state's fund. These funds are available to provide low interest loans, buy or refinance local debt, subsidize or insure local bonds, make loan guarantees, act as security or guarantee of state debt, earn interest, and pay administrative expenses of the fund. All projects receiving funding must be those which will assure maintenance of progress toward the goals of the Clean Water Act and meet the standards and enforceable requirements of the Act. After states achieve those requirements, SRF monies may be used to implement other water pollution control programs such as non-point source pollution management and the national estuary program. EPA has approved 51 states and territories for funding under the SRF program.

The Water Quality Act of 1987 authorized for the SRF program \$1.2 billion per year for fiscal years 1989 and 1990, \$2.4 billion for fiscal year 1991, \$1.8 billion for fiscal year 1992, \$1.2 billion for fiscal year 1993, and \$600 million for fiscal year 1994. (The SRF program has been receiving approximately \$2 billion per year in recent years.) The SRF program was intended to be self supporting following fiscal year 1994. It is expected that SRF funding will continue following 1994.

The EPA produces a needs estimate biennially. It currently estimates that there are \$80.4 billion in sewage treatment needs over the next 20 years which are traditionally eligible for assistance under the Clean Water Act. Total municipal needs related to wastewater treatment are estimated at over \$110 billion. These needs exist notwithstanding the billions in federal assistance which has previously been provided. Recent estimates indicate that al-

most one-fourth of the national needs estimate is in rural communities of fewer than 10,000 in population.

#### RURAL AND SMALL COMMUNITIES

Congress has long recognized the differing needs of rural and small communities in meeting their infrastructure and environmental requirements. The Clean Water Act, in 1977, was amended to provide for a set-aside of grant funds of between four and seven and one-half percent of the sums allotted to any state with a rural population of 25% or more. The funds are to be available for alternatives to conventional sewage treatment works for municipalities having a population of 3,500 or less. By encouraging alternative technologies with special funding, it was hoped that small and rural areas would use technology more appropriate and affordable for the community. This program was designed for the expired grant program.

Other federal agencies such as the Farmers Home Administration also provide assistance to small and rural communities. Through the end of fiscal year 1991, the Department of Agriculture had made loans totalling \$3.7 billion to over 9,000 communities and made grants totalling \$1.2 billion to over 4,600 communities for rural wastewater disposal systems. Under this program, eligibility is determined by the median income of the community, the size of the community, and the health hazards associated with drinking water or wastewater systems in the community. Additionally, some communities have been able to obtain funding through the Appalachian Regional Development Act, Community Development Block Grant program, the Economic Development Administration, or state funds.

Small and rural communities often have per capita costs for sewage treatment far in excess of those of urban areas. For example, because of the dispersion of households in rural areas, costs for collector systems may be seven to eight times greater than in urban areas. Small communities may also have the disadvantage of a lack of technical expertise within the community and a lack of resources to properly operate and maintain public sewage treatment systems.

The infrastructure needs of small and rural communities have been well documented. Of total housing units in the United States, only about 75% dispose of their sewage through public sewage systems. The remaining 25% dispose sewage through septic tanks, cesspools, chemical toilets, and the like. In 1980, it was estimated that seven percent of households located in rural communities were without complete plumbing, compared to 1.9 percent of the nation's urban households. Of the nearly 1,800 treatment facilities projected to be added to those currently in operation when all needs are met for documented facilities, over one-third will be serving communities with sewage flows of less than 1,000,000 gallons per day. (One million gallons per day represents about 10,000 people.) This represents an enormous unmet need for small community systems.

There have been varying estimates of small and rural community financing needs. The Association of State and Interstate Water Pollution Control Administrators (ASIWPCA) has estimated that small communities, which they define as 5,000 or less in population, will require in excess of \$10 billion in the next ten years.

In addition, in approximately half of the states, more than 50% of those needing construction of facilities cannot afford the debt service on a loan covering all project costs. According to ASIWPCA, the smaller the community size, the less viable existing loan programs appear to be.

A recent report by the Center for Community Change found that facility needs backlogs in rural poor counties total nearly \$600 million, or approximately one percent of the national needs estimate. This represents 11% of all counties nationwide. The data included in the report indicate that rural poor needs vary nationwide and that assistance programs may need to be targeted to address particular needs.

#### EXPECTED TESTIMONY

Witnesses are expected to testify on the needs of rural and small communities from a national and local perspective. In addition, witnesses will discuss the types of technology available to smaller, rural communities which can reduce the inherent bias of economies of scale and assist communities in the operation and maintenance of their systems.

# REAUTHORIZATION OF THE FEDERAL WATER POLLUTION CONTROL ACT

(Sewage Treatment Needs of Rural and Small Communities)

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TUESDAY, FEBRUARY 23, 1993

HOUSE OF REPRESENTATIVES, SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT, COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION,

*Washington, DC.*

The subcommittee met, pursuant to notice, at 10:36 a.m., in room 2167, Rayburn House Office Building, Hon. Douglas Applegate (chairman of the subcommittee) presiding.

Mr. APPLGATE. Welcome to the first official meeting of the Subcommittee on Water Resources and Environment for the 103d Congress. We have a very busy agenda. Immediately we will start out on the hearings on the reauthorization of the Clean Water Act. Today and tomorrow we will receive testimony on the sewage treatment needs of small and rural communities. Later, we will hear testimony on other issues associated with reauthorization.

Since 1972, when the present clean water program had its inception, close to \$60 billion in grants have been made to the States for the construction of sewage treatment works. In earlier years, the Clean Water Act provided for direct construction grants of 75 percent and later 55 percent. But in 1987 amendments to the Act provided for the phase-out of the direct grants program and the phase-in of grants to States to capitalize State revolving loan funds from which loans and guarantees are made to communities for construction of sewage treatment works.

This latest program ends in fiscal year 1994. In spite of the substantial assistance provided, over \$100 billion in sewage treatment needs remain over the next 20 years.

Small and rural communities face special problems in meeting their sewage treatment needs. In many instances they simply cannot afford to do so because of a lack of resources. Even loans from the State revolving loan funds are of no use to them because they have an inability to pay them back.

Economies of scale are not present in small communities, often with scattered housing, so per capita costs of sewage treatment are much higher than in areas of larger, more concentrated populations. Yet the needs of these communities are very real, and serious water pollution problems do exist.

The Association of State and Interstate Water Pollution Control Administrators has estimated that small communities, which it de-

finances as those with 5,000 or less in population, will require in excess of \$10 billion in the next 10 years for sewage treatment. A recent report by the Center for Community Change found that facility needs backlogs in rural poor counties total nearly \$600 million. In order to address these needs, which are neither met by the communities themselves nor by existing programs, we should focus on the possibility of some sort of grants program targeted to small needy rural communities.

I am not down-playing the needs of large cities. God knows that they have just as big a set of problems as anybody else, and maybe more. They are certainly well documented. On the other hand, while five large cities are enjoying an appropriation of \$500 million in outright grant monies, as was administered during the later years of the Bush Administration, no such consideration has been given to small communities. Hundreds of small towns could totally eliminate their problems with that kind of money, but they are being squeezed out. We have to make room for the needs of both.

Our hearings today will focus on these small and rural communities and the ways in which their needs can be addressed. I consider this to be an extremely important meeting, as well as this series of meetings we will have. God willing and the creek doesn't rise, we will be able to come forth with a piece of legislation that everybody will be happy with.

But before we get to our first witness, I want to recognize my very distinguished colleague—and I am very happy to have him as the ranking Republican Member of this subcommittee, who does a tremendous job and who has been at the forefront of some of the most important pieces of legislation in public works since I have been a Member of Congress—Sherry Boehlert.

Mr. BOEHLERT. Thank you very much, Mr. Chairman.

There are a lot of important hearings going on in this town this morning. This is a town with important people and important topics on the agenda. But I can think of none that are more important than what we are doing here this morning.

About 75 percent of the communities across this country that are not in compliance with the Clean Water Act are poor, small, rural communities. As the Chairman observed in his opening statement, so often the attention is paid to the major urban centers—and I can understand that. Certainly, we all can understand that. That is where the concentration of people are. But that is not where the concentration of all the problems in America are.

Small rural communities are bleeding. We have to do something more than apply a band-aid or even a tourniquet. We have to come up with something that addresses their legitimate needs.

If we are determined to do something other than to stand idly by and watch the exodus of people from Small Town USA—that is where the quality of life really is—that is where most of the people who reside in these urban centers would prefer to live, if they could.

We have a task on our hands, Mr. Chairman. I think you are up to it and I want to help you. I'm looking forward to hearing our very distinguished list of witnesses and our colleague from Indiana.

Mr. Chairman, it is a pleasure to be here. We are about some important work here and I want to get on with it.

Mr. APPLGATE. Thank you very much, Mr. Boehlert.

Of course, we are very honored to have our distinguished full committee Chairman, Norman Mineta, with us today. Since I have been here, he has been one of my mentors and I listen to what he has to say. He instructs us very intelligently and hopes for the best.

We are very happy to have the Chairman of the full committee with us.

Mr. Mineta?

The CHAIR. Thank you very much, Mr. Chairman.

This is a very important subject matter and the fact that you will be chairing this subcommittee with Sherry Boehlert as the Ranking Republican frankly gives me a great deal of comfort in terms of the very important work that we are going to have before us.

This marks the beginning of a series of hearings on one of the most important environmental issues which will be coming before the 103rd Congress, and that is the reauthorization of the Clean Water Act.

The existing clean water program, which provides financial assistance to communities for the construction of sewage treatment works and regulates the discharge of pollutants into our waters, originated in 1972. In the past 20 plus years following the passage of that Act, some \$60 billion have been provided to municipalities for sewage treatment, and the discharge of pollutants from industries has declined dramatically in that time period.

Much progress has been made. However, we now face new challenges. There are less Federal dollars available. And yet, at the same time, over \$100 billion in sewage treatment needs remain over the next 20 years as communities take the steps that are necessary to comply with Federal standards. Federal spending for this purpose is now only about one-third what it was in 1980.

Much of the pollution presently entering our waters comes from nonpoint sources, from storm water discharges, and from combined sewer overflows. These issues must be addressed. New strategies such as pollution prevention and a watershed approach to achieving clean water must be considered.

Some would have us deal with the issue of wetlands protection as well. Wetlands, without a doubt, are a valuable resource. They function as nature's wastewater treatment works, and at the same time they provide the greatest diversity of biological species in the temperate zone. They are, in that respect, our closest equivalent to tropical rain forests. How to properly and reasonably protect them is, without a doubt, a complex and difficult issue.

Today's hearing focuses on another real problem: the inability of many small and rural communities to deal with their sewage problems because they lack the necessary resources. The subcommittee's hearings will lay the groundwork for our consideration of reauthorization of the Clean Water Act.

I look forward to working with all of you, and especially with the Chair of this subcommittee, Mr. Applegate, the ranking Republican Member, Mr. Boehlert, and all the Members of the Subcommittee. In addition, I look forward to working with the community at large that is vitally interested in this issue so that we are able to tackle this difficult and yet very exciting subject matter. It is so important

for the future of our children, the future of the industry and for the future of our country.

There are many issues that I know are going to have to be dealt with from financing to the substantive issues in terms of standards. Again, I look forward to working with everyone so that we might be able to come up with a bill that is doable and yet will be as far-reaching and innovative as this Public Works and Transportation Committee achieved in the 102nd Congress in developing the ISTEA legislation.

Thank you very much.

Mr. APPLGATE. I thank the very distinguished Chairman. I look forward to working with him during the course of the 103rd. I can tell you that if we have as much cooperation as we did during those ISTEA hearings in the development of one of the great transportation packages, we are going to do very well this year.

I would like to recognize at this time one of the great ranking Members of the Congress, a Ranking Member of the Public Works Committee, the gentleman from Pennsylvania, Bill Clinger.

Mr. CLINGER. Thank you very much, Mr. Chairman.

I want to applaud you and Mr. Boehlert for holding this series of hearings on the problems being faced by rural and small communities throughout this country.

There are too many communities throughout the United States that are prohibited by law from having any kind of economic growth or development because they are at capacity as far as their wastewater treatment systems are concerned. That represents a very real damper on the whole economy of this country. I think what we're addressing here is the need to break that log jam and provide some assistance to these communities so that they will be able to have the growth that presently is enjoyed by cities and more urban areas that have already addressed the wastewater problems that they have.

The current wastewater treatment enforcement regime really raises, to me, the worst kind of specter of the heavy hand of government in our affairs. On the one hand, we threaten small communities that are terribly strapped for funds, yet they must comply with these standards that have been set, but on the other hand, we give them no funds to do this with at the present time. In fact, we penalize them and threaten them with all kinds of fines and penalties if they don't comply.

This, to me, is the worst kind of example of Federal administration of a program. Since the major cities have been taken care of, the smaller communities were kind of left behind. I think that the emphasis you place on this matter at this point is exactly right. I look forward to working with you to come up with a bill that will ameliorate the real problems we are facing.

I would ask unanimous consent that my full statement be entered into the record.

Mr. APPLGATE. Without objection, your prepared statement will appear in the record.

[Mr. Clinger's prepared statement follows:]

Opening Statement of  
The Honorable William F. Clinger, Jr.  
Before the Water Resources and Environment Subcommittee  
Hearing on Small Community Wastewater Needs  
February 23, 1993

Mr. Chairman, I applaud you and Mr. Boehlert, the Ranking Republican, for holding this series of hearings on the wastewater needs of small and rural communities. I represent 15 counties in northcentral and northwestern Pennsylvania that include well over a hundred small towns, townships, and boroughs.

I have long supported federal grant assistance for wastewater treatment programs. The huge federal investment of the 70s and 80s has gone far to help restore the cleanliness and integrity of our inland waters. And I might add that these investments help insure that future generations will enjoy these same resources as we have.

In spite of the many successes, there is a tremendous unserved need, and one of the biggest disappointments, in my view, is the lack of sufficient federal investment in small and rural community wastewater treatment systems.

I am not criticizing the administration of the program during the 70s and 80s. However, I do find it offensive that federal grant support ended without addressing the needs of small communities, while holding them to the same effluent standards -- if not stricter standards -- of their big city brethren.

There are dozens of communities in my district that are prohibited by the state environmental agency from adding new tap-ins to their systems. They cannot grow, attract new business, or pursue an improved economic livelihood until they upgrade their systems at a cost well above their ability to pay. These are the very same

communities that never ranked high enough on the state's priority list to be eligible for federal assistance. And it is these communities that are held to the same performance standards.

Ironically, many small communities are fairly remote and situated at the headwaters of major watersheds. Because of the purity of the receiving waters, they will be held to a stricter standard than communities further downstream.

Finally, I know the Committee is well aware that economies of scale put a huge burden on small systems. But I can tell you from personal experience that some of the thorniest problems faced by several of my constituent communities during the 1980s was the federal government's insistence that they build and operate wastewater treatment systems at an exorbitant cost. Many studies estimate that building and operating a small wastewater treatment system today would cost each household approximately \$50 a month, depending on

certain variables. By comparison, in Fairfax County, Va., the quarterly bill for combined water and sewage services for a family of four runs about \$50.

Current wastewater enforcement frankly raises the specter of federal government at its worst; dictating compliance by threatening local communities and their elected officials with huge penalties. Local officials view this issue the same as they view any other unfunded mandate, although in this instance, the large communities have been huge recipients of federal grant assistance. We should be mindful, too, to view the wastewater program in conjunction with a whole host of other mandatory federal and state performance requirements.

Finally, it is my view that the State Revolving Fund program is simply inadequate. The amount made available to the states does not translate into reasonable costs for small communities. Congress did

not make available sufficient funds to spare small systems from overwhelming expenses associated with debt service and operations. Congress must make new resources available to make these systems more affordable. It comes down to a matter of equal treatment.

I applaud you for holding these hearings, and I look forward to working with the Subcommittee leadership to fashion a solution.

Thank you, Mr. Chairman.

Mr. APPLGATE. I will add to what has been said so far. We have heard the President give his package of spending, cuts, and taxes, but it is going to be very difficult to foresee any kind of cuts in the programs that we're trying to deal with because they are so important and they have been mandated by the EPA through the Congress. We are looking at things in a little different nature. I think we should all keep that in mind.

I am very happy to introduce Jill Long. I guess I don't really have to.

Jill, you can come on up to the microphone.

We are very pleased to have Jill here to testify. For the short period of time that she has been here, she certainly has left her imprint upon the Congress. She is a very highly respected Member, one who can address the needs that we are here to talk about. She grew up on a farm and before she came to Congress she lived on an 80-acre farm. She has been elected as Chairman of the Rural Caucus, so you know that she has rural America and small America in her heart. That is what we are here to address as far as the needs with regard to the Clean Water Act.

Mr. CLINGER. Mr. Chairman, I would like to join you in welcoming our colleague. I am really looking forward to her statement.

But before she has the opportunity to give us some good counsel, I would appreciate it if you would indulge my colleague, Mr. Inhofe of Oklahoma. He has a word he would like to give.

Mr. APPLGATE. Absolutely.

Mr. INHOFE. Thank you, Mr. Chairman.

I know we want to get things started here. If there is any one person in Congress I wouldn't want to hold up, it is Representative Long.

I think it won't come as a surprise to Representative Long and the rest of this committee that Oklahoma is making its normal contribution to this hearing by one of the witnesses who will be joining you.

I was kind of surprised to hear the figure that our Chairman mentioned, \$100 billion of wastewater treatment needs over the next 20 years. Like Chairman Mineta, I came from the ranks of Mayor of a large city. While we dealt with these needs—and they are very complicated to us—I looked around me at the smaller communities and saw that the smaller communities didn't have the money or the expertise.

I think we are very fortunate that the incoming President, the President-elect of the American Consulting Engineers Council, Paul Sprehe, will be joining us today. The fact that he has a small firm of some 18 members—his entire effort has been with the smaller communities in helping them to meet these needs. I think that is a very significant because from my observation, the major problem they had was that the smaller communities really didn't have the expertise of knowing.

As Mr. Clinger said, they get the mandates from the EPA making these demands upon them, and then all of a sudden they are thrown into this frustration of not knowing how to meet these demands. Fortunately, there are people who do have that expertise. The person who will be taking over the helm of the American Con-

sulting Engineers Council, Paul Sprehe, will be supplying that to a lot of the smaller communities.

Today, he will be supplying that to smaller communities throughout the Nation. We appreciate his good Oklahoma testimony very much.

Mr. APPLGATE. Thank you, Mr. Inhofe.

Does anybody else have anything they would like to say at this moment?

Mr. Hamburg?

Mr. HAMBURG. Mr. Chairman, I know in the interest of time—and we have many people here to testify—I would like to make a brief opening statement because the subject here this morning really directly impacts many of the small communities in my rural district.

I am very gratified to see that the focus of this first set of hearings is the sewage treatment needs of rural and small communities because, as I mentioned, in my district, which is the Oregon border down to the San Francisco Bay, there are many small communities with severe needs and major problems in this area. Although Federal programs furnish some aid to our small communities, the unmet needs are enormous. Providing additional funding support to implement the Clean Water Act must be a constant focus in our considerations today and throughout the Act's reauthorization.

Many small communities did not build needed wastewater treatment facilities under Title II construction grants when those were available. Now the SRF loans are out of reach for many of these communities. They have special needs: they often have a limited tax base, lower household incomes, and higher per capita costs. The prospect of repayment, even at reduced interest rates, is sometimes prohibitive.

We must now literally pay the price for the unaddressed needs of our small rural communities. EPA estimates that one-third of the \$110 billion projected national cost for complying with the Clean Water Act is for small rural communities. Throughout our country, there are numerous examples of small communities thwarted by the lack of funds.

In my district, the tiny newly incorporated town of American Canyon has recently formed a joint powers authority with its larger neighbor, the city of Napa, to construct and operate a new facility. There are currently no Federal funds available and the communities are about to proceed with this project at a cost of approximately \$46 million. Unless Federal aid can be obtained, however, the economic impact of this construction project could be devastating.

The connection fees and rates in this small town of American Canyon will cause a 400 percent increase in sewer costs. These are not wealthy people. Over 20 percent of the residents of American Canyon live on fixed incomes and many of them are dependent upon the nearby naval shipyard, one which is currently being considered by the Base Closure Commission and will have an impact of scores of millions of dollars of lost incomes for this community. So we have kind of a double whammy here with infrastructure needs and meanwhile a crumbling economy.

The project that is being considered by these communities is an innovative model designed to minimize energy consumption and produce reusable wastewater which will decrease reliance on other water sources. A portion of the reclaimed water will be used for a model wetlands restoration project to enhance habitat for endangered species. This visionary treatment facility will be built. However, without Federal dollars to help underwrite construction the impact may cripple the users.

In most other areas throughout my district, rural communities face isolation and cannot even consider lightening the financial burden by going into a collaboration with a neighboring community. For example, 5,000 people live in the small rural town of Willits, just north of my hometown of Ukiah. They have recently borrowed \$4.5 million to replace part of the main sewer line. This has resulted in user fees which are among the highest in all of northern California.

Seven creeks flow through this small city and storm waters regularly inundate the sewage plant and overflow the five retention ponds. This most recently occurred during the recent very serious storms in northern California where this inundation caused a flow into the river and the possible fining, which other Members have spoken to already. The community simply cannot bear the projected \$18 million cost of the additional retention pond and pipeline extensions so critically needed.

These cities are not exceptions to the rule, rather they are indicative of many small communities in my district and throughout the country with severe wastewater treatment problems. These communities often lie along waterways. Their needs must be among our highest priorities in consideration of funding under the reauthorization of the Clean Water Act.

Thank you.

Mr. APPLGATE. Thank you, Mr. Hamburg.

If there are no other statements to be made, we will recognize Ms. Long.

#### **TESTIMONY OF HON. JILL LONG, A REPRESENTATIVE IN CONGRESS FROM INDIANA**

Ms. LONG. Thank you, Mr. Chairman, Mr. Boehlert, and other Members.

I really appreciate the opportunity to testify before the subcommittee today about the clean water needs of rural America. I am pleased that you and the Members of the subcommittee have placed the reauthorization of the Clean Water Act high on your list of priorities for this year.

I am especially pleased to speak before this subcommittee because Mr. Ewing also serves on this subcommittee, and he, in addition, serves as the vice chair of the congressional Rural Caucus, and serves with distinction.

The Clean Water Act is a landmark measure that has been instrumental in improving the quality of our waters in both urban and rural areas. I wholeheartedly support the intent of the Act and the State Revolving Fund. However, despite the good, economically feasible intentions of the Act and the SRF, the available funds are,

in large measure, simply not finding their way down to the small rural communities.

These smaller rural communities are anxious to become active participants in improving their local environment. However, many are unable to carry out these and other Federal mandates because they simply do not have the tax base, the resources, the expertise, nor the financial flexibility necessary to complete the process required to effectively compete for the available funding.

This mix of inaccessible Federal funds and the overall increase in the number of Federal mandates undermines the very good intentions of local leaders while forcing prolonged noncompliance. Meanwhile, the estimated \$13 billion or more in wastewater facility needs in rural communities continue to grow.

With this in mind, I believe we must look for ways to provide small communities access to the financing and technical know-how necessary to construct needed wastewater facilities now and in the future by creating constructive and innovative approaches within the existing framework. Let us begin by working to involve local government officials in devising national clean water strategies.

In order to promote effective and cost-efficient ways to tackle our pressing clean water needs in both the short and long terms, I think we must look at bottom-to-top approaches to carry out Federal programs, while refraining from enacting future laws which apply a one-size-fits-all mandate, or mandates, on communities of varying sizes that have unique problems and solutions.

While a typical urban center may have an economic specialist to develop an aggressive program to obtain available assistance, the situation in small, rural communities is very different from that. Recognizing these differences, we should consider providing rural communities assistance and guidance with financial management, budgeting, planning, and development of funding to further enhance their ability to consider available construction options.

Meanwhile, these communities must meet compliance deadlines and they are forced to pay penalties for noncompliance. At the same time, they find themselves unable to gain access to affordable financing to take the necessary steps to comply with Federal statutes—in this case, constructing needed wastewater treatment facilities.

Mr. Chairman and Members of the subcommittee, finding solutions to our current clean water financing mechanism, as well as determining future clean water needs, while taking into account our Nation's dire budgetary condition, will undoubtedly prove to be an arduous task. However, I am confident that we can find practical solutions to these problems by working together in a close, bipartisan fashion as we set our sights on providing health, affordable, and accessible water to all Americans.

I also submit for insertion in the record a short list of items which may be applied to the Clean Water Act reauthorization and which recognize the needs of rural communities.

[Memorandum/list referred to follows:]

## M E M O R A N D U M

To: Chairman Applegate  
From: Jill L. Long  
Date: February 23, 1993

Re: Clean Water Act reauthorization

Dear Mr. Chairman:

As you may recall, during a Congressional Rural Caucus meeting several weeks ago you mentioned the importance of ensuring that rural communities are treated with greater fairness when considering reauthorizing the provisions contained in the Clean Water Act.

With this in mind, I took the liberty of drafting some language which addresses the Clean Water Act and the needs of rural communities. Below is a summary of the proposal, and attached is the draft language for you to consider including as part of the mark-up vehicle. Incidentally, while this proposal would be helpful to rural communities, it would not increase either the overall costs of the program nor the Federal deficit.

Bill Summary

Section 2.

(a) Loan Program -

In an effort to allow small, rural communities to more effectively qualify for State Revolving Fund (SRF) assistance, section (a) seeks to extend the loan term and amortization period from 20 to 40 years for qualified "economically distressed rural communities" (see Definition below).

Section (a) would also extend the period in which principle and interest payments on the loans commence from one to three years for economically distressed rural communities.

The language contained in section (a) is written so that States have the discretion of extending the above time periods for economically distressed rural communities.

Finally, section (a) requires States to use not less than 15% of the funds deposited into its SRF to make loans to economically distressed rural communities.

### Section (b) Technical Assistance

Certain proposals in the past sought to set up a grant program to provide small communities with technical assistance. In an effort to avoid setting up another separate Federal program, section (b) would amend existing language, which currently enables States to use a portion (4%) of their SRF for administrative costs. Section (b) would increase this percentage to 6% -- assuming the SRF program is extended -- allowing States to use the extra 2% to carry out a technical assistance program, as described in this section, for economically distressed rural communities.

### Section (c) Definition

Legislation introduced during the 102nd Congress sought to provide 25% of the SRF for rural communities with populations of 5,000 or less. However, this proposal seeks to provide communities with populations of 3,500 or less with the funds provided in section (a) (which also makes a lower percentage of the SRF funds necessary in order to carry out the section (a) program).

The other two parts of the Definition are similar to those proposed in legislation previously introduced.

Mr. Chairman, I hope this proposal is helpful to you as you further consider the reauthorization of the Clean Water Act.

In advance, thank you for your consideration.

Ms. LONG. Thank you again for allowing me the opportunity to testify here today. I would be glad to answer any questions.

Mr. APPLGATE. Just as a matter of asking, do you have any specific horror stories or any examples from your district on some of the problems that face these small communities?

Ms. LONG. There actually are a number of horror stories, one in a small town in my community that, in order to meet compliance, went ahead with a wastewater plan. As a result, the rates for each household quadrupled, or may have even increased to a greater degree than that.

But also I think that more than the horror stories are the problems of the inability to move forward, particularly when we have communities that are trying to be innovative. We have one county in my district that is working very hard to resolve the problem as cost-effectively and as efficiently as possible by joining resources across the county rather than each small community dealing with it individually. They keep running into bureaucratic red tape. They have limited resources and therefore don't have the large staffs of legal counsel as well as large staffs of specialists. They are simply not able to be competitive when it comes to applying for the funding.

Mr. APPLGATE. Mr. Boehlert?

Mr. BOEHLERT. I am not quite familiar with Indiana. I am a former county executive, so I know how New York works. I know the plight of the small communities.

Do most of the counties in Indiana have county planning departments?

Ms. LONG. There are county planning departments, but when it comes to wastewater treatment and compliance with the Clean Water Act, much of that is handled by individual towns and cities, some of which are very small. So there are, but in terms of having county-wide planning for water treatment, that would be the exception rather than the rule.

Mr. BOEHLERT. And in the small jurisdiction, they all turn to the county for assistance in planning. The county is limited in what it can offer. So would you be receptive to providing funding directly to counties for planning assistance, and that funding would be earmarked for rural communities of, say, 10,000 or less?

Ms. LONG. I would certainly be receptive to that. In fact, I would probably wholeheartedly embrace it. I think that would work very well.

But I also think there has to be flexibility in the language that allows counties and local communities to work to address these problems in fairly innovative ways because the problem changes dramatically not just as you go from urban to rural but as you go from one rural community to another rural community. Our rural communities deal with something very different from rural communities in Montana, for example. So I think there has to be flexibility as well.

Mr. BOEHLERT. Thank you very much. I really appreciate your testimony.

Ms. LONG. Thank you.

Mr. APPLGATE. Does anybody else have anything else?

Mr. Gilcrest?

Mr. GILCREST. Thank you.

Welcome back to Congress.

Ms. LONG. Thank you.

Mr. GILCREST. Mr. Boehlert made some recommendations which I think we would all agree with as far as the funding, planning, and things of this nature.

Would you go so far as to say that we should get back into grants as far as sewage treatment plants are concerned from the Federal Government the way we had some years ago, as opposed to basically the Revolving Loan Fund that States have now. Or is it possible—because grants have a tendency to be heavily weighted on the political structure in that whoever has the most clout gets the most grants—that there could be a way to use the dollars from the grants to the States to reduce the amount that the people in any area—whether urban or rural—would have to pay as far as the Revolving Loan Fund was concerned?

That could be flexible to meet the needs of hard-hit rural areas where there are only a few people who would have to pay back a big loan.

What do you think of something of that nature?

Ms. LONG. Well, I think grants can work very well. They certainly have their place. The nice thing about the State Revolving Fund is that it allows the dollars to go farther and to reach more communities. I think a mixture or combination would probably be most effective.

But in addition to that, I think we have to look for different ways of resolving the issue of water treatment in rural communities. For example, I think it is possible—and we want to make sure that communities are in compliance, but it may be possible to use a lower technology for treatment in rural communities than in an urban center because you have more land space. By using a lower technology, we might be able to bring the cost down per household, or per user. I think we need to look for flexibility and build flexibility into the policy. You have flexibility when you have a combination of grants and loans as well.

But we need more. In addition, we need to provide assistance to rural communities so that they are better versed on the policy and the options and better able to compete with the larger urban areas that have paid staff.

In my own community, we have a lot of volunteers who are helping to put together fund applications. That is very different from a major urban area that has a large staff of individuals who have expertise in writing grants.

Mr. GILCREST. Thank you.

Mr. APPLGATE. Thank you, Mr. Gilchrest.

Mr. Mineta?

The CHAIR. Mr. Chairman, let me just ask a couple of questions of our very fine colleague.

You have used a couple of phrases—noncompetitive and flexible. Noncompetitive in what sense? Because of paid staff or lack of paid staff in rural areas? The fact that you don't have local match as the bigger communities might have?

Ms. LONG. Both of those. Noncompetitive in the tax base as well as noncompetitive in the human resources within the local governments.

The CHAIR. Is that because the program through the State Revolving Fund—I am asking this because I don't know—is that because the delineation of the area is by county? Or should it be by watershed area?

Ms. LONG. I think it is because in rural communities you have public officials who serve in a part-time capacity. Oftentimes you will have public officials who are virtually volunteering their time to the local government. As a consequence of that, you have people who are competing when it comes to writing a loan application—they have a full-time profession or a full-time job. Then in their spare time they are working on writing applications for their local community.

That contrast greatly—

The CHAIR. Let me ask along that line, though. That is the problem that you see under the existing State Revolving Fund program?

Ms. LONG. That as well as a lesser ability to get the matching funds or to produce the matching funds.

The CHAIR. It seems to me the problem we're facing here is that where we have been rocking along at a \$2.5 billion program—we have \$600 million left in terms of authorization and yet the Administration is talking about zero in the future as far as Federal funds to the State Revolving Fund.

Would we be better off continuing the funding to the State Revolving Fund, or should we go to the old Federal grants program through EPA?

Ms. LONG. In my own judgment—and I am speaking now just for myself—the State Revolving Fund can work because it will allow the dollars to go further. But the regulations have to be more flexible so that smaller communities can utilize them.

The CHAIR. I will get to the flexible issue in a minute.

I am hoping—and this is just me sort of thinking out loud—that we would be able to increase the amount of money that goes into the State Revolving Fund \$3 billion, \$4 billion, \$5 billion from the Federal level rather than having this thing terminate at some point. I think it is terminating in a year.

So it seems to me from a local small community perspective that if we could fund the program adequately the local smaller communities would be better served through a State Revolving Fund than having to go through a grantsmanship program back here to Washington, D.C. through the EPA.

If you had your druthers—

Ms. LONG. A combination, but I believe we can make dollars go farther in a State Revolving Fund. I believe we can make that happen.

I don't want to say that I am opposed to grants because there may be some communities that have such a low per capita income that the grants would be necessary, but I believe the State Revolving Fund works. I think it can be made to work better.

The CHAIR. I feel that same way. I am hoping that maybe by adequately funding it we may be able to bring some relief to the rural community.

The other piece of it you mentioned is flexibility. I think this is something that we can deal with—or will attempt to deal with—only because of the catch 22 we get ourselves into because not all the regulations are, let's say, within the jurisdiction of just this committee. There are other areas that are in the jurisdiction of the Merchant Marine and Fisheries Committee, or maybe even possibly the legs and arms of the Energy and Commerce Committee.

So we have a problem of trying to deal with the flexibility, even though we may want to try to help as much as possible, that somewhere a lot of that may not fit because of the jurisdictional issue.

The other thing I want to deal with is—having been in local government, as have a number of our colleagues—trying to establish the relevancy between the standards that we have and health and safety. I think our technology to detect is overtaking our technology to treat. If we have machines that are able to detect one part per million and, then somehow that becomes the standard. If someone else comes up with a new machine that can detect one part per hundred million, then that becomes the standard. Then someone else comes up with a machine that will detect one part per billion, and now some are discussing machines that will detect one part per trillion.

I don't know whether one part per billion of copper in the water is really more safe as a standard that one part per hundred million. Yet somehow, because the technology of detection is advancing, it is setting the standard for us.

One of the things I want to determine in this whole series of hearings we are going to go through is the relevancy. I think those kinds of things are impacting much more adversely on rural communities because, as you say, the spread may not be there to necessitate this kind of treatment. On the other hand, there may be other problems that you're dealing with that may impact—in other words, something that may help you may adversely impact on my good friend, Mr. Hayes' committee in Louisiana.

I want to take a look at this whole issue of standards, not to open up a can of worms, but we have resources that we have to stretch out. I want to make sure that what we're doing is relevant to health and safety as well.

Ms. LONG. I really commend you for that.

The CHAIR. I think what you have contributed to our deliberation today will be very helpful. As you have said, the earlier position was that everybody had to have secondary treatment. There may be instances where secondary treatment as a minimum level may not be necessary.

The other thing is, maybe we don't have to go to these large plants where you have pipes underground conveying stuff to a large water pollution control plant. Maybe package plants can do it somehow. I don't know. This is something that is discussed. I know a number of years ago, it created a real firestorm. But it seems to me that that is something that we also should take a look at in terms of package plants.

In any event, I want to thank you, Jill, for your great statement in getting our eyes to be opened to these alternatives.

Thank you very, very much.

Ms. LONG. Thank you.

Mr. APPELGATE. I thank the Chairman.

Mr. Horn?

Mr. HORN. I agree with Chairman Mineta's comments. One word he used triggered some thoughts: the whole idea of watersheds. As a newcomer to this committee and to try to make a balance between the feasibility of, say, package plants that could meet real needs in small cities versus some type of watershed regional cooperation—my background is that I grew up at San Juan Bautista, California. This is known as the city without a government in California since they abolished the whole government because they couldn't pay any bills. There are 1,100 people or so that live there. Some of us grew up and still have ranches out in the country far away and septic tanks are common—when they work. It is very green around the septic tanks, you will find in most places.

But what I think of is, How do you reach out with this small grant program to bring in collectives of farms and little towns far from a center city? San Jose is 45 miles from us; Gilroy, 10; Hollister, 13.

I would be interested to know, What is the feasibility of some sort of regional watershed cooperation? Or do the technological costs of all the lines and the rest just price itself out of the market?

Ms. LONG. I think you look for different kinds of technology that work with larger land space and a smaller number of users. I would argue very strongly in favor of earmarking a certain portion of the SRF money or grant money to go to rural communities. But I think writing flexibility into the language is a very important component so that a rural community—I am sure the needs in your rural community are very different from the needs in my rural community. It is going to be difficult to be user friendly to the rural governments and the smaller governments unless we allow that flexibility as well as technical assistance.

Mr. HORN. Thank you.

Thank you, Mr. Chairman.

Mr. APPELGATE. Thank you, Mr. Horn.

Mr. Hayes?

Mr. HAYES. Thank you, Mr. Chairman.

I noticed in the printed copy of your testimony that you made a reference to providing rural communities assistance and guidance with financial management, budgeting, planning, development, and funding as opposed to the resources—in urban areas specialists are available. My experience has been with communities under 20,000 that not only are there no such specialists, but the budget of the entire city government would be eaten up by paying someone who is as good as the person who handles the major metropolitan area.

What agency or mechanism did you have in mind? The idea is one I totally agree with, but have you thought through a suggestion on implementation or the equivalent of ASCS or something that would be manageable?

Ms. LONG. There are probably a number of ways it could be done, but the most cost-effective way I think is to not spread it across

agencies and departments but to try to concentrate it in one agency or certainly within one department. When you start spreading it across, then you end up spending more money on administrative costs.

I would also say that working with associations or counties and associations of cities and towns and so forth, that would be a good way to get the information and to provide the technical assistance.

Mr. HAYES. The second point I would like to make is a follow-up to Chairman Mineta's comment about technology.

A concern that I have is that in a bill as large as the Clean Water Act, we have conflicting mandates and we have dueling Federal agencies. In other words, let's take your State where I have been very active in your farm community. I was recently in Indianapolis the same time you were.

If we start looking at rural Indiana communities that are in the heart of wetlands, then we have a mandate to do clean water and to do sewage and to accomplish a much higher level for human consumption than under these abilities to detect parts per anything in the water we would have known before we got better technology—good.

Now, how do we do it? We have a section 404 permit process that in an urban area, in the heart of New York, is not going to be too difficult to get past because there is very little that hasn't already been built. But in a more rural area, it goes through a lengthy proceeding where you have EPA doing one chore under Clean Water Act section 404, and EPA mandating another chore under the Clean Water Act of 1972 as we authorize it.

This, to me, is the biggest burden that we're coming into in rural areas. If we don't make decisions here on priorities and agency oversight, then we will be turning over land planning to Federal agencies without ever passing a national land use bill. That, to me, is a frightening concept and one that should be debated and the mechanism clearly stated as to where we're going and where we're intending to go, rather than to let regulations usurp what should be the legislative responsibility.

In your State and mine—the watershed concept is excellent and fine. The watershed of the Chesapeake Bay is the entire State of Pennsylvania and 90 percent of New York. How do you implement that from the standpoint of Maryland? From the standpoint of Pennsylvania? From the standpoint of New York? Do you do permits in the entire State of Pennsylvania for any activity as its consequences derive on the State of Maryland?

It is good to use words in Congress, but when we're not implementing them with sufficient legislation to point the agencies and departments in the direction we're sending them, then you can have some terrifying consequences.

Thank you.

Mr. APPLEGATE. Aren't you glad you didn't have to answer that one? [Laughter.]

Mr. Inhofe?

Mr. INHOFE. To follow-up a little bit, we have heard Mr. Hayes talk about his cities and his towns that don't really have any type of expertise and they are in a way competing. We have heard Mr.

Horn talking about his town with no government at all. You talked about the associations of counties and towns.

That is the way we do it in Oklahoma. We call them the councils of government where you take areas of the State that have those things in common and they address them.

On the other hand—and I found this out when I was Mayor of Tulsa—we find that the surrounding smaller communities within that council of government are often competing for the same dollars. So it gets down to the ability of those townships to have some professionalism.

Actually, rather than to ask you this question, I would like Mr. Paul Sprehe to think about this prior to the time that he gives his testimony. Even though Mr. Hayes says that there is no expertise available, I think perhaps the American Consulting Engineers Council is pretty widespread over where they can give that individual attention. I know that is true and that that has resolved the problem in Oklahoma.

Do you find in Indiana that sometimes within certain of those association areas there is competition for the same grants and for the same money?

Ms. LONG. I think more than sometimes that that is probably the rule rather than the exception. But I think that everything you have stated points to the need for flexibility as well as the need for earmarking some of these funds specifically for rural communities.

I can't emphasize enough the need for assistance and the need for flexibility that treats rural communities differently from large urban centers.

Mr. INHOFE. Thank you.

Thank you, Mr. Chairman.

Mr. APPLEGATE. I would just say that the problem certainly is very serious. I am hoping—and I don't know whether we will be able to do much about establishing a grant program that would zero in and target the small rural communities, particularly on a needs basis, and allow them to be able to enter into a program with the State through the State Revolving Fund so that they will have the ability to be able then to pay for that.

I agree with what the Chairman was talking about, too, that detection is exceeding the ability to be able to treat. I was just asking counsel if there is an ability to be able to finally end up getting zero. That would be some kind of a super tertiary type of plan where there isn't anything.

But that is the same problem we run into in the Clean Air Act. You're finally ultimately reaching out to try to find—and they will because there will be detections that will say there is absolutely none—then you have to find a way to achieve that. It is just going to be an impossibility. It makes it more difficult, particularly as we reach down to the rural and small communities.

Mr. TUCKER?

Mr. TUCKER. Thank you very much, Mr. Chairman.

I truly appreciate your testimony here today, Ms. Long. It has been most edifying.

I have to ask the enigmatic question. How do you define a small and rural community? Is there any kind of threshold?

Ms. LONG. I think typically we have said under 10,000. But again, I think there has to be flexibility because that varies as you go from the east to the midwest to the west. I would hope that there would be flexibility in the language involving that. What if you have a small town of 10,100, for example?

I think you need to look at both the size of the town and the size of the county that the town is located in. Then there should be flexibility.

Mr. TUCKER. Obviously, in the opening statements from the chairmen, they have talked about how bigger cities and urban areas so easily get the funding. Then you have that category between the small and the rural.

I am a former mayor, myself, from the city of Compton. We have a population of about 100,000. We most certainly have some real severe concerns toward sewage rehabilitation and secondary treatment. Once again, it is in that middle ground of being a community that is not a major urban area, but then again considered to be one of the small municipalities in the State of California. Most certainly with the wastewater treatment and the issues we're addressing today would be a great way to generate job creation.

I was concerned as to how that would fit in in terms of this secondary market that we're talking about.

Your answer would be flexibility?

Ms. LONG. Yes.

Mr. TUCKER. Thank you.

Thank you, Mr. Chairman.

Mr. APPELGATE. Thank you, Mr. Tucker.

If there are no other questions of Ms. Long, we are again very grateful for you appearing before the committee. We look forward to working with you.

Ms. LONG. Thank you. I really appreciate the opportunity to be here.

Thank you.

Mr. APPELGATE. Thank you. I am going to mention to those now who will be coming up that we went a little bit longer with Ms. Long on the questions. We have but about 2 hours and 20 minutes, at which time the full committee will be meeting. So we are going to be a little bit under the gun. Perhaps we will be able to expedite a little bit. If your statements are short, fine; if they are long, please summarize them.

I would say to the committee Members, too, that we will be under the 5-minute rule and try to keep our questions and statements very concise, direct, and to the point.

Our first panel would be Rapoza Associates, Laura Paradise, Policy Associate and Water Environment Federation with A. Robert Rubin, Associate Professor, North Carolina State University.

Welcome to the committee. Being the chivalrous person that I am, I will allow Ms. Paradise the opportunity to speak first.

**TESTIMONY OF LAURA PARADISE, POLICY ASSOCIATE, RAPOZA ASSOCIATES; AND A. ROBERT RUBIN, ASSOCIATE PROFESSOR, NORTH CAROLINA STATE UNIVERSITY WATER ENVIRONMENT FEDERATION**

Ms. PARADISE. Thank you, Mr. Chairman.

My name is Laura Paradise and I work as a policy associate with Rapoza Associates, a consulting firm that conducts policy research and provides legislative support on rural and low-income community development issues. For the past 5 years we have collaborated with the Center for Community Change and the Rural Community Assistance Programs on research activities that address rural poverty needs. We have focused primarily on rural drinking water and rural wastewater concerns emphasizing changes in Clean Water Act funding and their impact on rural wastewater projects.

These policy research activities have been supported by the Aspen Institute and the Ford Foundation.

It is particularly a pleasure to appear before this committee to discuss the wastewater facility needs of rural communities and small towns. For too long there has been inattention to rural wastewater needs. These needs have not been a Clean Water Act funding priority. As a result, small and rural communities received a relatively small share of EPA construction grants funding. It appears that these communities will not receive an increasing share of funds under the new State Revolving Fund programs.

I am going to talk a bit about the wastewater problems of rural areas and then provide some recommendations to the committee regarding measures that may be taken to better address rural wastewater needs.

Before I begin, I would like to request that the Executive Summary from "Through the Revolving Door: An Analysis of Rural Wastewater Facility Financing" be entered into the record.

Mr. APPLGATE. Without objection, it will appear in the record.

Ms. PARADISE. Thank you.

This is a report we worked on that provides a comprehensive analysis of the State Revolving Fund loan programs and the actions being taken to target rural needs and the match between rural wastewater needs and available funding options.

The data from this book is from the 1988 needs survey, so bear with me if my numbers a little different than some of the numbers you have discussed.

Basically, today almost three-fourths of the United States population is served by municipal sewage collection and treatment facilities. Most of the population is served by a very small number of facilities. However, most of the facilities in the country—90 percent—by definition are small, serving populations of fewer than 10,000 people.

In the EPA needs survey, the compliance projects and cost estimates necessary to meet Clean Water Act standards are documented. The 1988 survey showed a backlog of \$63 billion in wastewater needs nationwide. Rural wastewater facility needs accounted for one-fourth of that national estimate, \$13.7 billion to address facility needs of communities of less than 10,000 people.

Nearly three-fourths of all identified projects in the survey were required to address rural wastewater needs. Clearly, given the concentration in terms of number of projects in rural areas, these communities have not kept pace with changing environmental standards. As I describe some of the characteristics of rural needs, it becomes clear that rural areas have had a low priority traditionally in the Federal funding program.

Overall, the data shows that even where rural areas are served by municipal sewage collection and treatment facilities, these facilities are not able to provide adequate treatment as mandated by the Clean Water Act. Moreover, the estimates show that rural areas continue to rely on substandard individual facilities—including outhouses—that must be replaced by municipal collection and treatment facilities.

Rural facilities needs show the greatest national need for secondary treatment facilities where none currently exist. One in six facilities in rural areas discharges either raw sewage or sewage treated at a level below that of secondary treatment. More than 16 percent, twice the national rate, of facilities in rural poor counties are not providing secondary treatment.

Even those rural treatment facilities that do provide secondary treatment exhibit the highest incidence of noncompliance with their discharge permit standards. One-fourth of all rural treatment facilities are violating their discharge permits. Facilities serving poor residents have the worst record with nearly one in three in violation of their discharge permits.

Perhaps most significant, numerous rural households continue to be served by substandard individual facilities, including outhouses, homes that lack complete plumbing, cesspools, and straight pipes discharging untreated waste into neighboring streams. EPA data shows that rural new construction projects account for 90 percent of all new building activity documented in the EPA needs survey. Nearly one-third of all projects that were identified in rural areas are for new sewage collection and treatment facilities.

As an aside, States submit separate estimates to the EPA needs survey that show projects that are necessary but do not meet documentation criteria. In these separate estimates, projects to replace inadequate individual facilities in rural areas predominate. There is no actual dollar cost provided to go along with this number, but it is important to note that many rural areas—as has been discussed—do not have technical staff. Therefore, they do not have the sophistication to provide the documentation to meet EPA requirements.

However, States have identified that there is a major backlog in terms of addressing on-site rural sewage treatment problems that isn't even documented in the needs survey.

Although EPA data focuses on regulation-related needs, there is very little information about a community's ability to achieve or maintain compliance. Yet because rural systems are more likely to serve poor residents than other systems, it is also likely that these systems are constrained in their ability to address or maintain compliance.

We have spoken to State environmental regulators and State revolving loan staff throughout the country to try to gain some more information about the characteristics of rural wastewater facility needs. In fact, 32 States confirm that compliance problems are prevalent in communities where residents can least afford to finance improvements. Limited revenue-generating capability, poor financial management practices, and little or no capital planning contribute to ongoing facility problems in rural areas.

I am going to go through a few examples of the types of compliance problems we found.

Noncompliance is often the result of poor operation and management. User charges are too low. Facilities do not generate sufficient revenues to cover maintenance costs, equipment repair, or replacement. Many do not employ trained operators. Noncompliance facilities typically serve a small, often rural, low-income customer base with limited debt repayment ability.

Households served by small and rural facilities are paying a larger share of their income for wastewater services than do residents in other areas. Further, these households are predicted to experience the greatest increases in annual costs in order to comply with emerging standards and because they have to borrow to finance these improvements and cannot obtain the grants. Service shut-offs are already becoming a reality for some low-income households in both urban and rural areas because of rising utility costs.

The recent transition to State Revolving Fund serves to exacerbate the problems that rural low-income areas have in terms of financial and management capabilities. We spoke to State Revolving Fund staff throughout the country and we also looked at loan portfolios to try to get a better understanding of who has been able to borrow from the fund and the nature of those low-income projects that have been funded.

We found that most States are issuing a majority of loans to larger, more creditworthy municipalities in order to meet their financial management obligations under the Clean Water Act. Because rural and lower income communities tend to lack bond ratings and have limited debt repayment ability, they are considered greater credit risks.

Our findings show that the greater financial scrutiny in the SRFs highlights the dilemma faced by many rural communities. While they don't have the means to finance projects on their own, they can't gain access to loan funding because of their poor investment quality and limited repayment ability.

States surveyed overwhelmingly agreed that affordability is the most critical factor for poor, rural, low-income borrowing. Mr. Chairman, 23 States reported that a lack of grants makes the new program not viable for rural low-income communities; 19 States say that because of excessive per-household costs, low-income households cannot participate in the new program.

I would like to say in commendation of the SRFs that they have done a very good job in trying to make the program work for smaller communities and for lower income communities. The problem is that the States are constrained in their ability to provide interest rate subsidies without eroding the long-term lending power of the SRF, and at the same time States cannot offer the supplemental grant these communities to lower loan costs to an affordable level.

There is another problem, which relates to system operation and management. Many smaller and lower income communities cannot gain access to the loan funds either because they don't have the technical capacity to meet preliminary loan requirements, or because they have to juggle numerous requirements of different funding programs in order to put together an affordable finance package that will make the project work for them. In that process there

are a lot of time delays, a lot of red tape, and this can extend a project for years before loan financing and grant financing can be put together.

Another problem is that because these communities tend to have operation and management problems, they are not good investments from the loan fund perspective. These communities need assistance to assure that they can maintain the facilities in good working order if they are going to be good loan candidates.

I am just going to run through a few recommendations and then I will close.

Because financial and management capability have become even more critical than in the transition to loan funds, I think it is important to better identify the financing and management needs of communities as part of the national needs survey. I would recommend that the needs survey be expanded to include information on financial and management characteristics of facilities. It is very difficult to tell how many customers are served by facilities. It is just a little information about rate base and a little information about compliance history. It doesn't help us to understand more than the physical improvements and costs necessary to meet compliance requirements.

Based on this new data, technical assistance programs should be implemented to help communities improve their financial management practices and their operation.

As separate fund should be established within the State Revolving Fund that is earmarked for rural low-income communities. Funding should be offered at terms based on affordability criteria. Loan terms should be extended to 40 years. And supplemental grants should be made available, particularly in hardship cases for low-income households and for new sewer service projects.

Incentives should be provided to address the needs of on-site systems in an affordable manner. At this time there is no incentive for innovative or alternative projects. There is no incentive for lower cost technologies such as septic management. These are options that would work in rural areas and that would be more affordable.

Finally, technical assistance should be provided to rural communities to address their operation, maintenance, and management needs. Operators should receive adequate training and systems should receive assistance with capital improvements planning.

That concludes my statement.

Mr. Chairman, Rapoza Associates and the Center for Community Change thanks you for this opportunity to testify before this committee.

Mr. APPLGATE. Thank you, Ms. Paradise.

Mr. Rubin?

Mr. RUBIN. Good morning, Mr. Chairman and distinguished Members of this subcommittee. I am Robert Rubin, an extension waste management specialist on water supply and wastewater management at North Carolina State University. I am in the biological and agricultural engineering department there.

I am here today representing the Water Environment Federation, formerly the Water Pollution Control Federation where I serve as chairman of the Small Community Outreach Committee.

I formerly have been chairman of the American Society of Agricultural Engineers' On-site and Community Wastewater Treatment Committee.

I have submitted a written statement and I believe you have copies.

I am here today to address several issues that are facing small and rural communities. I have heard several times that there is such an unclear definition of what a small rural community is. In North Carolina, we use a figure of approximately 5,000 people, but that will vary depending upon location in the State. Obviously, that does vary across the country.

Mr. Chairman, 60 percent of our population in North Carolina resides in small communities and rural areas. Nationwide, that number is about 40 percent.

In North Carolina, \$1.6 billion has been spent on wastewater management facilities that were constructed under the Clean Water Act from 1978 until 1992. Approximately 65 percent of that money was allocated to projects in major metropolitan areas such as the Charlotte area, and Greensboro/Winston-Salem area, the Research Triangle area, Raleigh/Durham/Chapel Hill. Our latest needs survey that has been conducted indicates that we have \$3.9 billion in treatment costs remaining today, and 60 percent of those treatment costs are in the rural areas of North Carolina.

There are several critical issues that are facing small and rural communities. I would like to discuss some of these with you and I would like to make some recommendations concerning their implementation.

The first is the stringent water quality requirements that have been established under the Clean Water Act. They may in fact be very appropriate for large metropolitan areas and urban communities, but in some cases they are impractical and economically unfeasible for small communities with limited financial and personnel resources. As a result, these small communities frequently select a "no action" alternative.

I would like to give an example here, if I may, of the town of Stovall, North Carolina. It is located on the Virginia border with approximately 300 homes. Most of the residents of Stovall live on a fixed income. There used to be two industries in Stovall. Those industries have moved out, so their tax base has dwindled dramatically.

The homes in Stovall are served by septic tank soil adsorption systems. At any given time, 65 percent of those septic tank soil adsorption systems fail. And when they fail, untreated sewage is discharged to road ditches that course through the town of Stovall. These road ditches then discharge into major creeks that drain the area. One of those major creeks goes into the water supply serving a community to the east, and one of those major creeks drains in a southerly direction and serves a water supply to the south.

So we have untreated sewage going into surface water supplies as a result of inadequately functioning wastewater treatment facilities in small communities and rural areas.

Second, the technologies that we talk about for large communities are in fact appropriate for those large communities, but they may be very unfeasible for small communities. In a major metro-

politan area, a typical wastewater treatment process would usually consist of some kind of sedimentation—primary treatment—followed by biological, or secondary treatment. That water is then disinfected and frequently discharged to surface water.

Many communities today are looking at additional treatment strategies called tertiary levels of treatment where we remove nutrients or we add more aeration to remove more of the organic material.

Unfortunately, those technologies are very costly, they're very difficult to operate, and operators in small communities can't afford to run them. The small community can't afford to run them.

I would like to share with you a success story, if I may, and that concerns the use of alternative technology. The town of Waxhaw, North Carolina had a facility plan submitted to the State. The cost of that facility was \$4 million. The estimated user charge was \$36 per month. The university, consulting engineers, and the community worked together on an alternative collection system and alternative treatment system. The cost of that facility installed was about \$2 million and the monthly operating cost today for the sewer system is about \$19 per month.

So yes, we do have a lot of horror stories, but we also have success stories. We can utilize appropriate alternative technologies and really make an impact in small communities.

Third, I would like to talk about the public perception problem we have. Any community today that is looking at an alternative treatment technology has the impression that that somehow it is a second-class treatment technology.

Alternative treatment and alternative collection technologies are very appropriate for use in small and rural communities. They are not second-class technologies. They are proven technologies. We have a track record that indicates that these alternative technologies are good, reliable, effective, protect public health, and protect environmental quality. But we have to convince the community, the regulatory agency, and the consulting community that these are in fact appropriate technologies.

I would like to talk a little bit about sludge and residual management. All these treatment processes that we talk about are going to produce some kind of residue. We used to call that residue sludge, but we call that residue today biosolids because it better reflects their reusable nature.

Most facilities, when you talk about managing those residuals, face tremendous opposition. So one of the things that we need to look at is to improve the ability of these communities to operate over the long-term and to manage those residuals. That is the single most limiting factor in most of the wastewater treatments we have looked at: the inability to manage sludge.

Lastly, on the problem side there is a wide array of environmental mandates that are facing small and rural communities today. Wastewater management is only one of them. Wastewater management must compete with all the other mandates that are facing small and rural communities. One of the things we have heard about here this morning is that they don't have the resources to comply not just with the wastewater mandates but with the other mandates.

I have shared with you some of the problems and now I would like to share with you some of the methods you might think about to address some of these problems.

First, the Federal and State agencies must make an extra effort when they work the small and rural communities. The wastewater treatment programs for small and rural communities must be developed in an arena of regulatory flexibility which allows for the development of compliance schedules rather than demanding that today they be in compliance. Impose upon them a scheduled compliance program so that they can comply over time.

Secondly, there must be recognition of, and acceptance by, the enforcement agencies and the operating personnel that alternative technologies can be managed and can meet the unique needs of small and rural communities.

Also, we need to look at funding opportunities. These funding opportunities must be revisited to encourage investment in wastewater management programs that will help to revitalize small and rural communities around the country.

Third, in order to deal with the perception that alternative technologies are second-class technologies, Congress must fund research and demonstration programs that show that alternative wastewater management programs are not only appropriate in small communities but they are also very desirable from a public health standpoint, from an economic standpoint, and from an environmental viewpoint.

Fourth, I do believe that residual management strategies must be incorporated into overall facility planning processes. Regulatory programs, educational programs, and research programs can be developed that ensure that these technologies are developed to promote the management of residuals properly.

If small communities do face numerous mandates, we must find a way that local officials can work cooperatively with State officials and Federal officials to evaluate and prioritize local needs of public health and environmental concern and develop those into a comprehensive wastewater management program. That must be done on a risk-based basis.

The Water Environment Federation, the Cooperative Extension Service, and other agencies do stand ready to work with this subcommittee in seeking cost-effective and environmentally sound solutions to the difficult problems that are facing small communities today as they address their wastewater management needs.

Small communities do have wastewater management problems. Those problems can be addressed and we can make progress in addressing those problems. Alternative technologies are available today and they are in operation today. We must continue to develop these alternative technologies and allow for the acceptance of these technologies. We must incorporate into our programs some regulatory flexibility.

The Water Environment Federation and I do appreciate the opportunity to speak with you this morning. We thank you very much for your time.

That concludes my testimony. If you have questions, I will be happy to try to address them.

Mr. APPLGATE. Thank you very much, Mr. Rubin and Ms. Paradise.

Mr. Rubin, you talked about wastewater treatment costs of 1 percent of the average family's income as a threshold for placing a burden on the standard of living. Could you tell the committee where that figure comes from and what the national average is?

Mr. RUBIN. That is a difficult question to answer. There are some old data that came out of HUD. That data indicated that depending upon the relative income in that community, if the income was at or near poverty level, 1 percent of the income of the residents in that community could go to sewer service and another .5 percent to water service. As the income in that community increases, that percentage of the income that can go to water and sewer service does increase.

That is in the HUD documentation from a number of years ago. If you would like, I can find the exact citation for you.

Mr. APPLGATE. If you would, I would appreciate that.

Mr. RUBIN. I would be happy to do so, sir.

Mr. APPLGATE. Thank you.

Ms. Paradise, you talked about recommending establishment of a separate fund for subsidizing rural wastewater facility projects. Are you talking about entirely separate from the State Revolving Funds, or a separate account within the State Revolving Fund? How would you see this fund administered?

Ms. PARADISE. I would recommend that there be a separate account within the existing State Revolving Fund specifically for rural communities.

Mr. APPLGATE. Mr. Boehlert?

Mr. BOEHLERT. Thank you, Mr. Chairman.

Mr. Rubin, one statement just hit me like a ton of bricks from your testimony to illustrate the magnitude of the problem.

On page four you say that in some cases the construction costs of a traditional facility have exceeded the total assessed value of the community.

Mr. RUBIN. Yes, sir.

Mr. BOEHLERT. Is that true value assessment?

Mr. RUBIN. Yes, sir. Stovall is the community in point. They just built a new water system. The cost of the wastewater system to meet the permit conditions that the State and Federal Government will impose on the town of Stovall or will impose on numerous towns in North Carolina exceed the bonding capability—the net worth—of that community. And that is not just in North Carolina. I can show you communities all over the country.

If you gentlemen would like to take a little trip, we would be more than happy to arrange that.

Mr. BOEHLERT. We get in trouble every time we take a trip. [Laughter.]

Mr. BOEHLERT. You talked about the regulatory agencies needing to reevaluate the appropriateness of some of their water quality standards, especially in the context of small communities. Are there some standards that you feel are inappropriate? Could you identify some of them?

Mr. RUBIN. Some of the small communities that we have in eastern North Carolina and in western North Carolina have require-

ments for nutrient removal. We have communities with 350 or 400 homes that essentially have nutrient requirements imposed upon them. The cost of nutrient removal is in addition to all the costs of primary treatment and secondary treatment.

In those cases, we have found that spray irrigation systems and some of the alternative treatment technologies are very cost-effective for them. And through the use of these alternatives we have been able to meet those stringent water quality standards. But if you rely on conventional in-plant treatment processes, those processes are so costly that the small communities simply can't afford to build them and they can't afford to operate them.

Operating funds come out of their local budget. There has historically been no grant available to operate a system. There has been some available to construct, but none to operate. When you look at the energy costs and the chemical costs, they are phenomenally high.

Did I answer your question, sir?

Mr. BOEHLERT. Yes.

Ms. Paradise, would you care to comment on that?

Ms. PARADISE. In terms of the affordability of the operation?

Mr. BOEHLERT. Yes, and the appropriateness of some of the regulations.

Ms. PARADISE. I am not an engineer and I don't feel that I am in a position to comment on that.

Mr. BOEHLERT. Let me ask you a couple of questions, if I may.

One of the things that the GAO recommends is that we authorize a longer period of repayment for the SRF. What do you think about that? Do you think that makes sense?

Ms. PARADISE. I think that makes a lot of sense, particularly for rural facilities because their expected lifetime is actually longer because of their smaller capacity than larger facilities. I think States probably have the knowledge to know how long is long enough.

Mr. BOEHLERT. What are we doing now? What is the repayment period? Is it 20 years?

Ms. PARADISE. Yes, sir.

Mr. BOEHLERT. Do you have a recommendation? Would it be 30 years?

Ms. PARADISE. I would say up to 40 years is reasonable, depending upon the technology.

Mr. BOEHLERT. Another question I would like to ask is, What about using SRF funds to pay for sewer lines? What do you think about that proposal?

Ms. PARADISE. To some extent, they are used for sewer lines now. The problem for rural areas is that the sewer lines tend to have a very high per household cost because of the population settlements. So they are not a very good loan item. They tend to be an area where communities need a greater subsidy in order to make them affordable.

I see no reason not to use the loans for that.

Mr. BOEHLERT. Mr. Rubin, do you agree?

Mr. RUBIN. Yes, sir, I do. I think the other important thing is to look at the appropriateness of the collection technology in the small community. Well over half of the cost of a system can be in the col-

lection system. We have alternative collection technologies today that will help reduce those costs significantly.

Mr. BOEHLERT. You both heard Ms. Long's testimony. The key word I got from that testimony was flexibility. You are arguing along the same vein, aren't you?

Ms. PARADISE. I think there has been a tradition of building urban projects in rural areas. I don't think that is necessary. Flexibility wouldn't be the term I would use, but I think it is more appropriate technology.

Mr. BOEHLERT. Thank you both very much.

Mr. APPLGATE. I am going to have to call a recess. I know we have a couple of Members who do have questions.

We have about 7 minutes. We have one of the great important journal votes. If we could run over and run back without wasting too much time, we will get started immediately, if you will just hang in there with us.

[Recess.]

Mr. APPLGATE. The subcommittee will resume.

Mr. Poshard?

Mr. POSHARD. Thank you, Mr. Chairman.

Mr. Chairman, I apologize for being late to the subcommittee this morning. I came in this morning and the plane was late.

I do not have a question, but I do have a comment to Mr. Rubin and to Ms. Paradise.

I serve a rather large, sprawling district in southern Illinois that is mostly a coal mine area and rural areas. We have been a part of the Lower Mississippi Delta Caucus for the last 3 years, which then Governor Clinton—now President Clinton—chaired. Many of the counties in my district that I represent, as you may be aware, have unemployment rates in excess of 25 percent and have had for years. The municipal governments in that region and in the Lower Mississippi Delta region all the way to New Orleans don't have a chance in the world, for the most part, of affording a \$2 million to \$3 million upgrade in wastewater treatment.

So this gets to the heart of one of the most serious problems we have in that long stretch of what is now the poorest area of the country. I would hope that you folks would work with this committee in whatever way you can to elaborate especially upon the financing mechanisms that we need to get in place for these types of poor, rural communities.

Right now, whatever we have isn't working. I am hopeful that you can work with us in coming up with a list of options that we might get to the President should an infrastructure program evolve here as part of the economic stimulus package with regard to wastewater treatment and so on. This is something that is critical to the needs of the poorest areas of this country. We really need your support and your help in coming up with appropriate solutions here.

Thank you.

Mr. RUBIN. Thank you.

Mr. APPLGATE. Thank you, Mr. Poshard.

I totally agree with your statement because you come from an area very similar to mine. We know what the problems are and we know what the needs are. We know that we need some help. We

are hopeful that upon completion of legislation we will be in a position to receive that. I think it is time.

I would say that if you would, Mr. Hamburg did have a question. If you would be so kind as to stick around for a few minutes, I am going to call the rest of the panelists up. If you wish, you can maintain your seats. That is okay.

But before we do that, Mr. Gilchrest has a question.

Mr. GILCHREST. Thank you, Mr. Chairman.

I will take less than 5 minutes.

We are talking about a huge burden of cost. I come from a very rural area. There is one town in my district where there are 100 houses and every septic tank is failing—every single one. And their income is very low, so conventional methods are out of the question, whether it be a sewage treatment plant constructed with or a SRF monies, or anything. They need a pure grant, but in light of the deficit crisis, that is a difficult thing.

So we have to come up with a funding mechanism. Maybe it can be something where you can mix grant funds into a community like this that would lower their monthly payment cost, extend it out in a different way than you would a community of 3,000 that has a higher median income.

I think that is possible for us to be flexible in that manner.

We are going to have to do this right. We're coming up with some type of funding mechanism—and we also need to really look at your ideas of alternative solutions to these problems as opposed to conventional urban type sewage treatment plants—and I think we can do that if we pay close attention to all the problems and the detail.

But there is another dimension to this, then. If we follow the concept of a watershed management plan, we run into additional difficulties. I, myself, am inclined to go along with a watershed management plan because I think then we can work out the differences between States and the problems we have with the potential property rights concerns.

What is your sense of this problem, which is huge, adding onto this list of difficulties, creating a wastewater regional type of plan?

Could you both respond quickly?

Ms. PARADISE. When I think about something like a watershed-based approach, I think that is a very logical and appropriate way to go about trying to deal with water quality problems and to get it, some of the complexities in terms of regulations and mixing of different media and standards and planning.

When I listened to your remark I was really struck by the fact that part of what is very important to focus on here is the assistance that is provided to these communities in the process that they go through in deciding what the appropriate facility is for them and the appropriate management entity, and on and on with this decisionmaking. I think that becomes all the more important when you start to look at situations like the one you described where a conventional system isn't going to be practical or affordable. It isn't a long-term solution.

My answer is to say that a more planning-intensive and technical assistance-oriented approach—which is something that fits in

well with watershed management—makes a lot of sense in addressing that kind of problem.

Mr. RUBIN. I agree. I would also like to add to that. I think it is very important to look at the management entity that can function on a watershed basis, especially if that watershed basis crosses multiple jurisdictions—either city lines, county lines, or State lines. One of the things I believe needs to be addressed in legislation is enabling these communities to work across those jurisdictional boundaries. There are restrictions to that.

The technology is not the problem. There are good technologies. The problem is, How do we manage that technology? How do we get that technology adopted?

Mr. GILCHREST. Just off the top of my head, it seems that when you're going to pass along information from town to county to State to another State, everybody is going to benefit. If their purpose is to solve the problem, the flow of communication is very useful. From a rural area—they don't even know what a sewage treatment plant looks like let alone what may be a bermed infiltration pool as a possible alternative. So if we take the watershed approach, that sharing of information would be very useful.

Thank you.

Thank you, Mr. Chairman.

Mr. APPELATE. Thank you, Mr. Gilchrest.

Thank you, both. That was very useful information.

[The following was received from Professor Rubin:]



## North Carolina Cooperative Extension Service

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Mr. Joseph A. Italiano  
Committee Editor  
Subcommittee on Water Resources and the Environment  
Committee on Public Works and Transportation  
Suite 2186  
Rayburn House Office Building  
Washington, DC 20615

Dear Mr. Italiano:

On ~~March~~<sup>FEB.</sup> 23, 1993 I testified before the House Subcommittee on Water Resources and the Environment. My testimony was regarding the wastewater treatment and disposal needs of small and rural communities. During my presentation, several questions arose. Questions were from Representative Applegate and Representative Boehlert. The purpose of this letter is to provide written documentation concerning these questions.

Representative Applegate had questions concerning the economic viability of wastewater management programs in small communities. I mentioned during my testimony and in my written comments that the hardship begins in some communities at 1.0 percent of the median annual income. The United States Environmental Protection Agency Office of Water Programs and Operations publication entitled, "Construction Grants 1982 (CG-82)" (Interim Final Report, EPA 430/9-81-020, July, 1982) indicates that a hardship results at 1.0 percent to 1.75 percent median income depending upon median community income. See document "A" attached (pgs. 47 and 48).

The criteria for consideration as an expensive project by EPA is 1.0 percent when the median income is under \$10,000, 1.5 percent when median income is between \$10,000 and \$17,000 and 1.75 percent when median income exceeds \$17,000. These values reflect 1980 dollars and can easily be adjusted for today's average incomes. I have enclosed a very rough section of a draft report on which I am working to help clarify economics. See attachment "B."

I hope this information satisfies Representative Applegate's question. If he desires additional material or information, please feel free to contact me.

Mr. Joseph A. Italiano  
Page two

Several other questions were posed by Representative Boehlert. He questioned the appropriateness of water quality standards for small communities and asked which were inappropriate. The wastewater treatment standards which require removal of high levels of organic material (removal to a treatment level of 5 milligrams per liter of biochemical oxygen demanding material) may be cost prohibitive for small communities. Further, some nutrient removal standards may impose significant financial hardship on small communities. Many small communities today face phosphorus limits of less than 1 milligram per liter in the discharge and removal of phosphorus to this level may also create significant financial burden for small communities. This burden is realized both on the construction side of the project and on the long term operations and maintenance side of the project. For several years, I have been advocating a program of regulatory flexibility. Small communities today face numerous mandates. Environmental quality programs are only one of several mandates facing small communities. A program which allows regulatory flexibility will permit small communities to develop a compliance schedule for environmental quality programs of most benefit to that community. Further, water quality standards should be re-visited as they relate to small and rural communities. When the potential impact from a small community is compared to the impact from runoff from agricultural operations, then the input from the small community is minuscule compared to that of the immediate environment. Pollutant trading between agriculture and municipalities may "trade" pollutant and achieve improved water quality. Development of this regulatory flexibility will foster compliance and help to maintain the economic viability of the small and rural community.

The level of funding necessary to support alternative treatment technology research and development efforts is high. Water quality models should be re-examined as they relate to communities with fewer than 10,000 residents. A nationwide standard should be established for the various alternative treatment technologies and this can only be done through a comprehensive research and development effort. Such a research and development effort could be centered around three or four Regional Centers of Excellence. Each Center could receive an initial budget of 1.5 to 2 million dollars. Operating expenses at each Center could be as high as 1 million dollars for the first four or five years of the operation. Following that initial funding and annual allocation, the Center would be expected to develop regionalized training and demonstration efforts which would then be self-supporting. The initial cost for this research and development effort would be approximately 10 to 12 million dollars with an allocation of approximately 2 million dollars per year for the next three or four years. A centralized coordinating committee would be necessary to coordinate research activities and this function could be accomplished for .5 million dollars per year and at the end of the four or five year development stage, the activities of the coordinating council would then be self-supporting.

Mr. Joseph A. Italiano  
Page three

The concept of Regional Centers of Excellence will allow for development of wastewater management programs that are specific to unique climactic, geologic, and natural resource conditions in the various physiographic regions of the country. A single center to promulgate research and development activities will prove to be ineffective because of its inability to accommodate unique needs dictated by regional conditions.

I hope this information is helpful to you and the members of the Committee on Public Works, Transportation and the Environment. The Water Resources and Environment Subcommittee is genuinely concerned about these rural infrastructure issues and I commend them for their interest. Rural communities are eager to comply with environmental mandates but the myriad of mandates makes compliance costly and difficult. The development of a rural infrastructure program which could facilitate compliance is vital to the viability of rural communities nationwide. If the Cooperative Extension Service, the Water Environment Federation, or the professional groups concerned with environmental quality and environmental management can provide additional information to you and the members of your committee, please feel free to contact me. Thank you for your interest in rural communities. I look forward to working with you and to hearing from you soon.

Sincerely,



A. R. Rubin, Extension Specialist  
and Associate Professor  
Biological and Agricultural Engineering  
Chair, Water Environment Federation  
Rural Community Outreach Committee

ARR:mb

Enc.

R:\Rubin\Letters\Italiano

United States  
Environmental Protection  
Agency

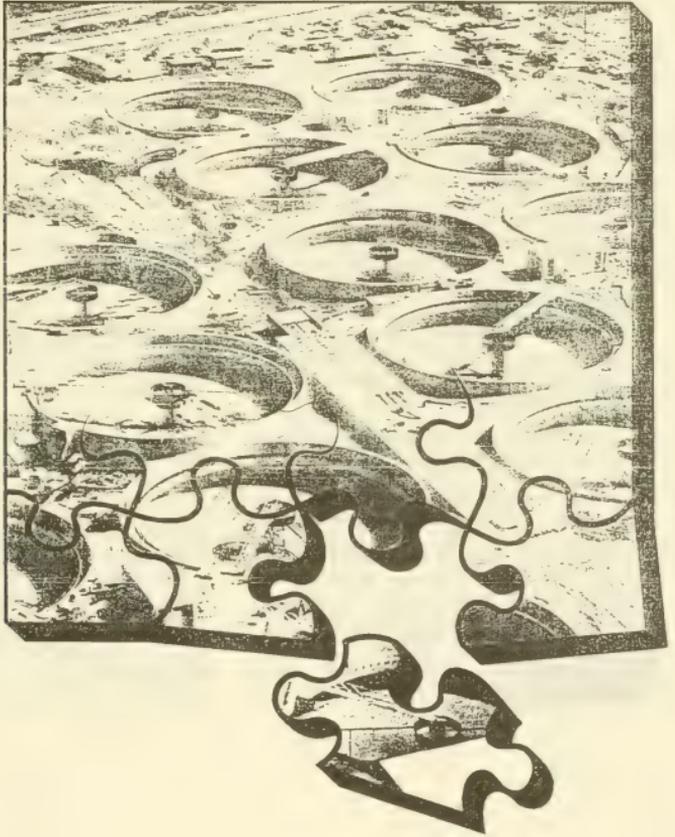
Office of Water  
Program Operations (WH-547)  
Washington DC 20460

430/9-81-020  
July 1982



# Construction Grants 1982 (CG-82)

# Interim Final



allocations. However, some projects involving revenues from cogeneration of energy in the form of steam or methane may qualify for a limited exception. If an energy cogeneration project involves the sale of energy rather than its reuse within the plant, then anticipated revenues may be used in cost calculations up to a maximum of the net value of energy (revenue less cost of plant reuse) that reasonably could have been reused within the wastewater pollution control components of the proposed project.

## 7.1

**ADDITIONAL CAPACITY** Although you may propose additional capacity beyond the allowable reserve (Section 5.5), it is not grant fundable. After October 1, 1984, grant assistance will only include costs for the capacity required at the time of grant award, not in excess of needs as of October 1, 1990. After identifying the cost-effective alternative, you should address the proposed "additional capacity" alternative in the same detail. Special emphasis should be placed on the environmental impacts, including indirect impacts, of the proposed project..

The allowable cost is equivalent to the estimated construction costs of the most cost-effective treatment works (conveyance and treatment plant). Estimate the costs of construction of the additional capacity alternative and the cost-effective alternative on a consistent basis. You should use recent cost curves published by EPA, Office of Water Program Operations (i.e., MCD-10, MCD-53, FRD-11, FRD-21, FRD-22) to determine the cost ratios of a cost-effective project

components and those of the additional capacity project. Multiply your cost ratios by the construction contract costs for the additional capacity alternative to determine the incremental eligible costs of the additional capacity.

Although grant assistance only funds a portion of the project, the review and approval process will be the same as for a fully allowable project. If the environmental impacts of any portion of the project are unacceptable, grant assistance will not be awarded for any project costs.

When you receive the grant offer, it may include special grant conditions to protect the Federal government from any further claim due to additional capacity. Note that the user charge system applies to the entire project including the part providing the additional capacity.

## 7.2

**DEMONSTRATION OF FINANCIAL CAPABILITY** To ensure proper construction, operation, and maintenance of treatment facilities, it is essential that the community be able to raise sufficient capital and operating revenue.

The facilities plan includes a monetary analysis of the total resource cost of the principal alternatives. In addition, an explicit analysis of the financial constraints that limit a community's ability to finance, operate and maintain the facilities performed early in the planning process can be an effective screening tool in the cost-effectiveness analysis, and can meet the requirement to demonstrate your financial capability for the useful life of the project as a part of your grant application. During

facilities planning this estimate of financial capability will ensure that the local government agencies and residents are aware of their total financial obligation. These financial costs are identified for the selected plan and should be presented at a public meeting.

A financial capability analysis will help answer six key questions:

- o What is proposed in the facilities plan?
- o What roles and responsibilities will local government have?
- o How much will the facilities cost at today's prices?
- o How will the facility be funded?
- o What is the average annual cost per household?
- o What is the community's financial capability?

The identification of the costs to the community, reflected in the charges to customers, includes user charges and other costs such as debt service on any existing system, debt service on the local share of new capital costs (you should use actual or expected interest rates when calculating debt service), annual O&M (including replacement) costs, and connection charges (Section 7.0).

Analysis of the financial characteristics of a community can include existing debt, revenues, assessed value of property, median household income, income distribution, rate of population growth, bond ratings, existing sewer system charges, planned capital expenditures, and other factors and trends. The analysis is applicable to community

systems and communities that are party to an intergovernmental agreement (Section 8.5.1).

Information on these costs should be developed as part of the draft plan of operation (Section 12.4) and user charge system (Section 12.2) required before a Step 3 grant will be awarded.

To assist you in this analysis an example summary information sheet is included in Appendix E of this book. Your State may have modified this sheet to better reflect local conditions. In any case, the information on the sheet you use will accompany your eventual application for a Step 2+3 or Step grant to demonstrate your community's financial capability. You should revise the information to reflect improved cost estimates and current community financial characteristics after design.

The financial capability analysis is especially important to determine a small rural or semirural community's ability to pay project costs (Section 7.2.1). The recently published Financial Capability Guidebook is available from EPA to further assist you.

Projects that appear to be expensive should receive careful review. We suggest that the criteria below be used to help identify expensive projects regardless of when the project was initiated. Calculate total annual charges to customers (after Federal and other funding is determined) for wastewater facilities. Include debt service, connection costs, and O&M. EPA considers the project expensive when the total annual costs exceed the following percentages of annual household median income (1980 dollars):

- 1.0% When median income is under \$10,000.

1.5% When median income is between \$10,000 and \$17,000.

1.75% When median income exceeds \$17,000.

(Use the consumer price index to adjust income data from other years and the dollar ranges in the table to the year of your most recent cost estimates, or adjust project cost and household income to 1980 values. See Appendix F).

Where identifiable, you should also consider the effects of projected charges to customers in areas with household incomes below the poverty level. If your project appears likely to be expensive, you should also:

- o Review the cost-effectiveness analysis to ensure that lower cost alternatives have not been overlooked and that estimates are adequate and accurate;

- o Determine whether high costs are due to water quality limitations and requirements of advanced treatment processes. If so, reconsider alternatives;

- o Review soundness of local share financing of project;

- o Pursue other funding sources.

It may be possible to reduce the local share of capital costs by using funds available from State and Federal agencies, such as Farmers Home Administration and Housing and Urban Development. Requirements for funding from other agencies' programs will vary and some communities may not qualify. A thorough investigation during facilities planning of all possible sources of funding will ensure that the local share is available. Be sure you have a firm commitment from any funding source.

#### 7.2.1

ASSURING LOW COST PROJECTS FOR SMALL COMMUNITIES

Per capita costs for conventional sewerage projects are frequently higher in small communities (flows less than 1 mgd) partly because of the size and distribution of their population. Small communities have fewer financial and management resources from which to draw. These circumstances make it critical that low cost, especially low O&M cost, technologies be selected. You can use the following two-phase screening to help select the technology for your project. The first phase determines the technology selected and exempts from further review those that involve one or more of the following:

- o Onsite and cluster systems;
- o Facultative ponds;
- o Overland flow land application;
- o Trickling filters;
- o Rehabilitation, expansion or upgrading of any of the above;
- o Upgrading the operation, maintenance, and management of existing facilities as an alternative or supplement to construction of new facilities.

The second phase of screening involves an operability assessment and the application of problem project indicators. (Projects in the construction stage as well as operating projects should also undergo a financial capability analysis if not performed previously.) The operability assessment evaluates the operational and maintenance requirements of

# Wastewater Facilities Financial Information Sheet

## Applicant

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zip \_\_\_\_\_

Contact \_\_\_\_\_

Telephone \_\_\_\_\_

Instructions for completing the Financial Information Sheet can be found in the Financial Capability Guidebook, which is available from the Government Finance Research Center, 1750 K St., N.W., Suite 650, Washington, D.C. 202/466-2494.

## What Is Proposed In The Facilities Plan?

- The proposed facilities will be: (check more than one if applicable)
- New                       An expansion                       An upgrade

- If treatment facilities are proposed, do they feature low O + M Cost Technology such as ponds, trickling filters, overland flow? If yes, please identify.
- Yes                       No
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

- The facilities will benefit:
- Population on sewers                       Anticipated growth                       Area served by on-site systems

Indicate the appropriate percentage of the plant's capacity that will be devoted to each group.

\_\_\_\_\_ %                      \_\_\_\_\_ %                      \_\_\_\_\_ %

- Entitles to be served:                       County                       Municipality                       Sewer district                       Industry

Flow contributions from each entity:

1st year    \_\_\_\_\_ %                      \_\_\_\_\_ %                      \_\_\_\_\_ %                      \_\_\_\_\_ %

5th year    \_\_\_\_\_ %                      \_\_\_\_\_ %                      \_\_\_\_\_ %                      \_\_\_\_\_ %

- Design population                      \_\_\_\_\_ (Year \_\_\_\_\_)

# Wastewater Facilities Financial Information Sheet

## What Roles And Responsibilities Will Local Governments Have?

Cooperative arrangements between various entities may be required to meet the management needs of wastewater treatment facilities.

- What agency will:  Own the facilities  Operate  Finance From line (10)
- Will there be financial contributions by:  Other agencies  Industry (10)
- Have participating agencies been asked to review:  Wastewater facilities plan  Population projections  Service area boundaries (10)
- Have agreements been sought between the operating agency and:  Participating agencies  Other agencies  Industry (10)

## How Much Will The Facilities Cost At Today's Prices?

The following figures are estimated costs for construction, operation, and maintenance of the proposed facilities. Dollar amounts are uninflated and reflect today's prices.

### A. Construction costs estimate

• Wastewater treatment plant	_____	(201)
• Pump stations	_____	(202)
• Interceptor sewers	_____	(203)
• Collection sewers	_____	(204)
• On-site systems	_____	(205)
• Land acquisition	_____	(206)
• Other	_____	(207)
• Total construction costs	=====	(208)

### B. Estimated annual operation, maintenance, and replacement (O + M + R) costs for the proposed facilities

• Labor	_____	per year	(209)
• Utilities	_____	per year	(210)
• Materials	_____	per year	(211)
• Outside services	_____	per year	(212)
• Misc. expenses	_____	per year	(213)
• Equipment replacement	_____	per year	(214)
• Total operation, maintenance and replacement costs	=====	per year	(215)

## How Will The Facilities Be Financed?

### A. Amount to be borrowed

• Grantee share of construction costs	_____	(309)
• Construction-related costs	_____	(315)
• Grantee contributions	_____	(320)
• Amount to be borrowed	=====	(321)

### B. Methods of financing the amount to be borrowed

Financing method	Amount borrowed	Interest rate	Term of maturity	Annual debt service payment	From line
General obligation bond					(322)
Revenue bond					(323)
Loan					(324)
Total					(325)

### C. Total estimated annual wastewater facilities costs

• Net existing O + M + R	_____	(328)
• Existing annual debt service	_____	(329)
• O + M + R for proposed facilities	_____	(330)
• Debt service for proposed facilities	_____	(331)
• Total estimated annual wastewater facilities costs	=====	(332)

### D. Sources of funding for total annual wastewater facilities costs

• Sewer service charges	_____	(333)
• Surcharge	_____	(334)
• Special assessments and fees		
— connection fee	_____	(335)
— betterment assessments	_____	(336)
— other	_____	(337)
• Transfers from other funds	_____	(338)
• Other	_____	(339)
• Total funding	=====	(340)

## Wastewater Facilities Financial Information Sheet

### What Are The Annual Costs Per Household?

• Total estimated annual wastewater facilities charges _____	Worksheet (400)	• Total annual costs per household _____	Worksheet (406)
• Nonresidential share of total annual charges _____	(401)	• Median household income _____	(407)
• Residential share of total annual charges _____	(402)	• Total annual costs per household as a % of median household income _____	(408)
• Number of households _____	(403)		
• Annual costs per household for			
— wastewater collection and treatment _____	(404)		
— other _____	(405)		

### Can Your Community Afford The Proposed Wastewater Treatment Facilities?

The financial capability of a community is the measure of its existing financial commitments and legal financial capacity to provide services. Listed below is a series of questions that will provide information about your community's financial condition and its ability to pay for the proposed facilities. The answers will give you a "snapshot" of the financial resources at your disposal to construct, operate, maintain the proposed facility.

- Over the past five years, has your community's population been stable, growing or falling?
- What is the current outstanding indebtedness of your community?
- How much additional debt can your community legally incur?
- What are your community's property tax revenues relative to the full-market value of real property in your community?
- If your community proceeds with this project, can it still afford other proposed projects?
- What is your community's bond rating? Has it changed within the last two years?

The Financial Capability Guidebook has an added supplemental section to assist you in finding and interpreting the answers to these and other questions. Collectively, the information will provide assistance – but not the answer – to whether your community has the financial capability to undertake the proposed project.

EPA has developed a screening system to help insure the selection of an appropriate wastewater treatment option. This system is based on an analysis of thousands of projects in EPA's biennial survey of needs. The purpose of this system is to help your community identify problems at an early stage when they can be more easily resolved.

The EPA screening system consists of six financial indicators and has two parts. (See below.) Part A measures the reasonableness of your project's costs and sizing based on national experience. The cost indicators reflect what your community would pay to build the facilities without funding. Part B is a measure of the net cost of the project to the existing households. These costs assume a 25 percent local share of the project capital cost. [verify with North Carolina criteria/ So how does this last sentence affect the numbers?]

**[UPDATE ALL FIGURES BELOW]**

Part A: Project Capital Costs and Sizing

<u>Indicator</u>	<u>Suggested Criteria</u>
Capital cost of sewers	\$4,000 per household
Capital cost of treatment	\$3 per gallon per day of capacity
Total Project Capital cost	\$6,000 per household
Allowance for future flow	50 percent of initial flow

## Part B: Cost to the Residential Customer

<u>Indicator</u>	<u>Suggested Criteria</u>
Annual Operations and Maintenance Costs	\$100 per household
Annual household cost	1.5 percent of median household income

The values of these indicators for your project are compared to the criteria based on national data or [to North Carolina's criteria?]. [verify] Both parts of the screening system are important; both the total cost of the project and its net cost to each household must be within acceptable limits. If your project exceeds the criteria for any of the indicators in Part A or Part B, you need to take a closer look at your project so that any problems can be analyzed and resolved. See the section "Where to Go for Help" to find out who to contact for more information.

It is important to note that small communities may have user bases that are too small to effectively spread out the minimum fixed costs of building and operating necessary wastewater facilities. In such cases the only recourse is to minimize the financial burden to the greatest extent possible by reducing costs and by increasing revenues without increasing individual user charges. This is essentially the purpose of implementing a cost-reduction and self-help program.

In order to accomplish this, three key costs determinant variables must be controlled: project cost, operating cost, and revenue capacity.

The *project cost* is the total cost of building a wastewater facility including engineering fees, legal fees interest payment, and land cost, as well as construction costs. The project cost has a direct impact on total annual cost through debt service.

Factors contributing to excessive project cost are as follows:

- Inadequate consideration of less-costly collection system alternatives
- Inadequate consideration of cost-effective treatment technologies
- Failure to seriously consider operational improvements or facilities upgrading versus plant expansion
- Oversizing of facilities due to unrealistic growth projections and flow estimates
- Designing overly sophisticated facilities which are inherently expensive, energy intensive, and operationally complex.
- Failure to consider the impact of inflation on ultimate construction and operating costs
- High debt service payments
- Failure to seek most competitive bid possible

- Excessive, unnecessary construction change orders

The *operating cost* is the day-to-day cost of owning and operating wastewater facilities, including debt service, as well as operation and maintenance costs. Operating cost has the most direct financial impact on a community, and is therefore often perceived as the root of the problem in a high-cost project.

Factors contributing to excessive operating cost are as follows:

- Maintaining larger operating staff than required
- Cost of in-house administrative services (management, accounting, billing, payroll, revenue collection, and so on)
- Excessive power consumption and excessive utility charges
- Excessive use of chemicals and failure to consider use of less expensive alternative chemicals
- Excessive equipment repair and replacement caused by inadequate routine maintenance
- Costs of outside services (professional services, treatment and disposal fees, and so on)
- Cost of miscellaneous expenses (rent, supplies, vehicle maintenance, and so on)

- Overhead expenses (fringe benefits, insurance, and so on)

*Revenue capacity* is the ability of the system to generate an adequate level of funds. Factors contributing to insufficient revenue capacity are as follows:

- Inadequate user charge revenue base related to size of service population and individual user's ability to pay

- Refusal of users to connect

Inequitable user charge system (e.g., not charging non-residential users their fair share)

- Excessive accounts receivable (delinquent user fees and payments)

- Reliance on user charge revenues alone without considering opportunities to generate supplemental income.

- Insufficient budgeting resulting in underestimation of revenue requirements

- Failure to take advantage of investment opportunities.

- Diversion of revenues to pay for other services (e.g., water, road repair)

What to Do if the Wastewater Project Is Too Expensive



Mr. APPLEGATE. We will now call the next panel forward. I invite you all to the table.

We have Joe Paul Jones, President, National Society of Professional Engineers; Paul F. Sprehe, President-Elect, American Consulting Engineers Council; Tom Harnisch, Wisconsin Towns Association, National Association of Towns and Townships; and Joseph Siragusano, Board Member; Ohio Rural Water Association, representing the National Rural Water Association.

I see that there are some time limits that we are working on here. I am going to take that person who needs to catch a plane first. Then we will go from there.

We will begin with Mr. Jones.

**TESTIMONY OF JOE PAUL JONES, P.E., PRESIDENT, NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS; TOM HARNISCH, WISCONSIN TOWNS ASSOCIATION, NATIONAL ASSOCIATION OF TOWNS AND TOWNSHIPS; JOSEPH SIRAGUSANO, BOARD MEMBER; OHIO RURAL WATER ASSOCIATION, REPRESENTING THE NATIONAL RURAL WATER ASSOCIATION; AND PAUL F. SPREHE, PRESIDENT-ELECT, AMERICAN CONSULTING ENGINEERS COUNCIL**

Mr. JONES. Mr. Chairman and Members of the committee, thank you very much. We appreciate the opportunity for NSPE to testify on this very important subject. My name is Joe Paul Jones and I have a consulting engineering firm in Fort Worth, Texas that is approximately 100 years old. We have worked with small communities throughout the State of Texas since the first time sewage treatment was known to this country.

The National Society of Professional Engineers, of which I am president at the present time, consists of some 75,000 members. We were founded in 1934 and have 535 chapters, with a State society in each of the 50 States plus 4 territorial societies.

I could give you a number of horror stories about the things that we have encountered in small communities and I am sure the Members here have heard many similar to that. We have a 9-page statement which I have no plans to read, but I know all the Members do have a copy of that.

One thing that I would like to say is that we as consultants, in dealing with these small communities, have to be more than just consulting engineers. As has been mentioned by a number of people so far, these communities have no staff. They may have one person they depend on, and they may not have much knowledge on how to go after these grants. So as a consulting firm, we have to have that capability in dealing with them.

We feel very strongly that the SRF is the way to go. We were pleased to have the opportunity, when this program was first considered, to appear before the committee that authorized it and work with the details. Many of those details that we thought were best have been made a part of the SRF.

Unfortunately, the SRF, as we all know, has not been funded as far as it should be and there are a few drawbacks about it that we would like to discuss. But we would like to say that it is a very sound program. I think it needs to be mixed in some cases with

grant funds or we won't have some of these small communities able to participate at all.

We should say that the small communities really have fared better under the SRF program than some of the urban communities because they have received 33 percent of the funds. So they haven't been totally left out.

Mr. Chairman, we feel that \$2 billion ought to be the minimum amount that is funded for the SRF program annually. If you could get \$3 billion or \$4 billion, that is wonderful. But as you pointed out earlier, the program was under-funded previously and we feel that \$2 billion should be the absolute minimum.

We think that these loans in cases where you have disadvantaged communities or very small communities ought to have a zero interest rate allowed by the States. The loan fund time should not be 20 years, as it is at this time. Small communities may build a treatment plant in one life span of a person. If they build a proper plant, it can certainly last for 40 years. There is no reason why the payback should be limited to 20. We would urge you to extend it to at least 30 and hopefully 40 years.

Flexibility has been mentioned today very strongly by the Chairman of the full committee. We have to eliminate the burdensome requirements of the title II grant program or it won't be possible for these small communities to meet their needs the way we want them to be met.

There is a restriction now that the money cannot be used for securing land. We think it ought to be allowed to be used for land purchases. It may be a small piece of property in terms of acreage, but it is a big piece of property to a small community, and it is a major investment and has a major impact on them. The funds ought to be allowed to be used for that.

Another point that is very badly needed—I don't know how to accomplish this, but if you can find that needle in the haystack, more power to you—eliminate some of the burdensome cross-cutting authorities that just hamstring the small communities in operating under this program.

We think that the funds should be given to the States on a cash basis rather than getting letters of credit as they have from EPA. If this was done, we think very strongly that the funds would generate more income, they would be used more rapidly, they would be repaid more rapidly, the States would be able to make interest instead of simply having a letter of credit, and the program would be more self-sustaining as it was intended to be by this Congress.

As far as the requirement of setting aside certain funds for the small communities in each State, certainly that should be done, but we feel that it ought to be up to the State since some States have much greater need for the small community set-asides than some of our urbanized States. If the same requirement is placed in this Act on all the States, then it could be totally unfair to a number of the more rural States and certainly to a number of the urban States.

Let me address the grants program, if I may, for just a moment.

We hope that you will not go back to the construction grants program ever again. However, there are many of these small and disadvantaged communities that are going to have to have at least

partial grants. They simply can't work without a grant. This could be done as a partial grant/partial loan. It could be done as a partial grant and privatization for the rest of the system as you put in the ISTEA legislation. It would seem that that would be a good idea you might want to explore.

We would urge you not to put a grants program in the hands of the Corps of Engineers or some other agency. It can be handled within the agencies where programs already exist. Of course, there are others besides EPA—the Rural Development Administration, the Economic Development Administration—and they do have program people that can handle it. We don't think the country needs to establish an entirely new program.

Those are our primary recommendations to you.

In closing, let me say that we think a revolving loan fund should be set up for drinking water and solid waste disposal, even though that is not the subject you're looking at today.

Funding of these small community facilities is very important. To design a small treatment plant takes a small amount of time. If we indeed are concerned about putting people to work quickly in this country, this is an opportunity to do it. The design can be done rapidly if we can get away from all the burdensome requirements that I have just mentioned. They can be put under contract and many of these small communities could have their problems well on the way to being solved. We think that is a good way to put people back to work as well as to solve the problem you're facing today.

Mr. Chairman, I thank you very much for your time.

Mr. APPLEGATE. I thank you for your statement and your directness. You have hit the heart of the matter.

Next we will have Tom Harnisch.

Mr. HARNISCH. Mr. Chairman and Members of the subcommittee, I am Tom Harnisch from Wisconsin representing the Wisconsin Towns Association and the National Association of Towns and Townships.

Our association in Wisconsin represents, 1,257 of the 1,266 towns. In many States, you would refer to those as townships. From the national perspective, we represent some 13,000 small communities throughout this country.

Town governments in Wisconsin represent 31 percent of the population. We have towns in Wisconsin that range from 22,000 in population to 29 people. Over 800 of the towns in Wisconsin are under 1,000 in population. So you can see that these are the very smallest of population centers.

Clearly, many of those communities do not need sewer treatment at this time. However, many of those communities do. Mr. Chairman, 25 percent of the population in Wisconsin live in areas that are currently un-sewered. Many of those communities, as would be the case nationally, are communities where their sewer needs currently go unmet.

Let me give you a description of the typical communities that exist in Wisconsin where the needs are going unmet. I think in many, many States throughout this country these three types of communities also exist.

The first community is the so-called crossroads community. In Wisconsin, those are unincorporated towns or small villages or

very, very small cities that are un-sewered or their sewer system is clearly inadequate. That is the community where the grocery store is there, the tavern is there, and a few people have harbored around there and maybe a feed mill that may or may not still be in business. That community is one of the typical communities we're addressing here today.

The second community is the lake front or river front community that runs throughout Wisconsin where there are 15,000 lakes and the Mississippi River and what have you. Again, those of you from other States can visualize those communities as well. Again, many of those communities are totally un-sewered, or their sewer facilities are clearly antiquated.

The third community, and the one oftentimes most controversial within political circles within the State, are the residential settlements that surround large cities or large villages. These are the communities that you may even refer to as suburbs. They are un-sewered but they are able to be connected to a sewer system but for the fact that there are political problems between that particular small community—whether it be a town or small village or what have you—and the larger community controlling the sewer system.

So the problems currently are not just those of this committee and this Congress appropriating the necessary money to deal with the issues of grants versus loans, but also to look very seriously at the political structures that are withholding current sewer treatment because even though we may have tremendous public health needs and tremendous environmental needs, and you may provide the appropriate appropriations dollars, you still may be in a situation where those dollars by this fall may never get to these communities because of the political problems back home.

What are some of those political problems?

The first major political problem in many States is that some of these communities cannot get sewerage because the community that controls the sewer will not allow it to be brought without annexation or without a major long-term contract with that community. The people who live in that town or small unincorporated area may not want to be annexed. So the first political problem is: Do we put Federal and State money into a community where they in fact withhold sewer from part of that serviceable community?

The second problem is that many States have a non-proliferation policy regarding sewers. That is, they want major metro sewers because of their efficiency. One can understand that. However, for many, many communities, that means running major lines for very long distances if they can't have their own sewage treatment plants.

We have been discussing here today some alternative treatment systems. I can tell you that in Wisconsin those systems are not highly thought of and the State Department of Natural Resources does not look with any form of enthusiasm at those alternative systems. They are basically looking at a non-proliferation policy with major sewer systems connected to major cities and major villages.

The third one is this funding/grant issue. I can tell you from the studies I have done lately in Wisconsin that many, many communities cannot afford a sewer treatment system. In Wisconsin, they

have a hardship fund for some of these very, very poor communities that adds on to the Federal dollars this committee appropriates. I can tell you that of the 24 communities that were hardship in Wisconsin that State additional funding picked up 2 of the 24. The other 22 that are miserably poor economically are not going to get any type of sewer treatment by Federal and State dollars combined.

So if this committee is considering moving major sewer treatment into those communities, I can tell you that they are there, but they are extremely poor and they need every dollar you can muster to get them sewerred.

Again, I mentioned the fourth concern is that alternative systems are not approved in many States.

What are the solutions? I suspect the first one is certainly a set-aside for small and distressed communities, targeted aid to meet the most needy communities' needs in this country. I think the report from the GAO pointed that out. In Wisconsin, there are certainly many, many communities that are targeted, but there is not adequate funding. Again, I want to urge you to look at these alternative systems but to make sure that these States will accept these systems.

Third, the annexation requirements. I believe, frankly, that if this committee is going to appropriate money and if Congress is going to approve this money, that communities that are within the service area should not have to suffer annexation in order to get sewer treatment.

Again, I would echo what people have said about training and allowing for the flexibility within these programs.

I thank the committee for their attention in this matter. This is an extremely important issue for rural Wisconsin and for rural America. We hope that you get about your business of facing this major issue.

Thank you very much.

Mr. APPLGATE. Thank you very much, Mr. Harnisch.

Mr. Siragusano?

Mr. JONES. Mr. Chairman, I apologize for having to leave because I do have a severe time commitment, but we would certainly welcome any questions that you have. I would be glad to answer those in writing to you at any time. We appreciate your time here.

Mr. APPLGATE. I might say to each of you that we will be submitting questions and we would ask that you promptly reply to those questions. We can save time today.

Mr. HARNISCH. Mr. Chairman, I have that same problem. Thank you very much.

Mr. APPLGATE. That is fine. Thank you very much.

Mr. Siragusano?

Mr. SIRAGUSANO. Thank you, Mr. Chairman.

As a board member of the Ohio Rural Water Association and member of the National Rural Water Association, I want to thank you for the opportunity to address the committee today. It is an honor and a privilege to appear before the Subcommittee on Water Resources and the Environment.

First I would like to take this opportunity to introduce myself. My name is Joseph Siragusano and I have been the director of san-

itary engineering for the Jefferson County Water and Sewer District in Ohio for 27 years.

I am here on behalf of the National Rural Water Association and its 45 affiliated State rural water associations and their 12,000 member water and wastewater systems. Each State association provides training and on-site technical assistance in solving operational and maintenance problems to rural and small communities. During the course of the year we provide 45,000 on-site types of assistance.

Speaking on behalf of rural America, I would like to express my gratitude for your support and concern for the welfare of the people of rural areas. During my 27 years of employment with Jefferson County, I have encountered many difficulties and hardships placed on the county government's water and wastewater systems. These problems and burdens commonly get passed onto the customers we serve.

I have come here today to express our support for a clean and safe rural environment. A safe environment must include the proper and safe treatment of wastewater.

Sewage treatment, in particular, is a problem because many small communities lack funds for projects as well as the competition between small and large communities for scarce Federal funding. As you know, smaller communities received a disproportionate amount of grant program funds before 1987 and now are solely dependent on the loan funds.

To solve these pollution problems, we need a new grant program specifically categorized for small communities rather than all EPA funding going to revolving loans. Our area is just one example of a typical rural community. Economically speaking, the area is under great financial stress. Jefferson County is basically a blue-collar workforce, primarily supported by the steel industry. At the present time, many of the area's residents are laid off from the steel mills as well as other plants and manufacturing companies. Therefore, as numerous studies have indicated, the income for rural areas is quite low and Jefferson County is no exception.

Before I reflect on some past and current problems facing my community I would like to acknowledge the support and concern this committee has shown in dealing with the sewage problems of rural America. The Rural Water Association greatly appreciates your dedication to the cause for bettering the health and living conditions of rural residents.

As you know, in 1973 the Clean Water Act was passed by Congress to clean up our rivers and streams of pollution. I would like to briefly comment on my personal experience with past grant programs that were initiated in the 1970s as part of the Clean Water Act and continued until 1987.

In order for a community to qualify for the 75 percent grants, each county, city, or village had to do a facility plan study for areas that were in dire need of sewer collection systems or wastewater treatment plants. For example, in Jefferson County approximately 15 facility plans were completed and put on the priority list of the EPA for qualifying for grant monies. Out of the 15 projects, Jefferson County did not qualify for any grant monies.

With all good intentions, the grants did not help many rural areas with pollution problems. Most of the money was received by the large cities and thus eliminating small village and county projects.

After the grant program was phased out in 1987, Jefferson County was notified that we could not comply with the Clean Water Act provisions. Soon after this we were referred to the Ohio Attorney General's Office for a consent of decree. Also we were informed that a civil penalty was imposed on Jefferson County for not complying with the NPDES permit. At this time we were instructed by the EPA to bring our plan into compliance within 2 years.

The cost of compliance was extremely costly and no funds were available through the grants. Our only available funding was through the SRF.

The mandate imposed on us gave us no other alternative than to raise the monthly minimum sewer rate on the residents. To meet the EPA requirements on upgrading our wastewater facility plant we had to increase our rates 500 percent. As you well can understand, the 500 percent increase was met with extreme outrage by the approximately 2,000 homeowners in the community. Many of these homeowners are on fixed incomes and currently experiencing difficult financial hardships due to the local economy.

This is only one example of rural America not being able to keep up with increasing regulatory burdens. I am certain many similar rural communities have experienced the same difficulties as Jefferson County.

Mr. Chairman, at this point I would like to mention a few other sewage problems facing rural communities.

First, for rural areas on-site sewage treatment often does not solve the wastewater problems. Second, installing new septic tanks and leach fields are not viable for many areas because soils are not suitable for leach field operations. Third, conditions exist today with actual raw sewage being run into ditches in rural areas. These raw sewage problems often put our children's health in danger. Many rural residents do not have public water supplied to their houses, thus relying on wells which can be contaminated from septic systems.

Currently we have numerous areas that need sewer construction because of mandates by the Ohio EPA. Without additional Federal assistance our estimated minimum cost per user of these projects is between \$80 and \$90 per month. As you can see, without additional financing assistant these projects cannot go forward. The only funding available is loans. Obtaining loans does not reduce the construction costs to the point of affordability for our customers. It is evident that what is a reasonable cost for a large metropolitan or regional public sewer system may not be reasonable for a small sewer system which serves relatively few users.

We should also note that in many cases, especially in rural systems, consolidation may not be possible or even desirable because of the distance between communities and homes. The need for more Federal financial assistance grows each year as Federal regulations increase the amount of environmental requirements on small wastewater systems.

In closing, Mr. Chairman, I would like to reiterate that without the assistance of the Federal Government the development of new systems and the expansion of existing systems will be very difficult to carry out. Federal regulatory requirements are dramatically increasing the cost of managing rural water and wastewater systems. Small communities have gone to their State governments for help only to be told that only loan funds are available.

I would like to thank all the Members for your efforts in providing the best possible living conditions for rural Americans and urge you to initiate a wastewater grant program for rural America.

Thank you.

Mr. APPLGATE. Thank you very much, Joe.

I would like to mention at this point that I know Joe Siragusano and I have known him for a great number of years. There is nobody that I know in the State of Ohio or anyplace else who runs a more efficient office than does Joe Siragusano. He does it with extreme quality and has done an excellent job. But he is limited.

Of course, I know what he is talking about because Jefferson County is my county. That is where I come from. I know what he is saying is absolutely true. I think that reflects so much of what rural America and the small communities are facing today. I think he very succinctly points out the needs and the need for a grant system.

Hopefully, we will be able to address that very positively before we get through this year. I appreciate your remarks on that.

Mr. SIRAGUSANO. Thank you, Mr. Chairman.

Mr. APPLGATE. Mr. Sprehe?

Mr. SPREHE. Thank you, Mr. Chairman.

I appreciate the opportunity to be here today. My name is Paul Sprehe. I am chairman of PSA Consulting Engineers, which is a small consulting engineering firm in Oklahoma City. Like Mr. Joe Paul Jones, I, too, am a registered professional engineer.

At the present time I also happen to be president-elect of the American Consulting Engineers Council, which is made up of some 4,500 consulting engineering firms employing 180,000 engineers and scientists. Many of the projects that consulting engineers do every year, which probably amount to \$100 billion, are for the small towns and rural communities in this country. So I think we are intimately familiar with the urgent needs of rebuilding the sewage systems or providing for the needs of the sewage systems in those communities.

As you indicated in your opening remarks, Mr. Chairman, there are countless examples of deteriorating sewage treatment plants and other water facilities throughout this country. Recent statistics from the EPA indicate that there are some \$10 billion to \$12 billion of projects that are on the shelf ready to go in this country. Of that \$12 billion, Mr. Chairman, \$136 million are in your home State of Ohio alone. The needs are obviously astronomical and Government should be working with the private sector through partnering efforts if we are to experience a true revitalization of environmental infrastructure.

With the obvious backlog in sewage treatment design and construction projects currently on the shelf, the private sector must be called into action to provide quality design and construction serv-

ices. Our member firms have been working closely with many Federal agencies, but we as a group do oppose the intervention of the public sector into the design industry. Many of our engineering firms are still struggling with the recession themselves and yet are facing competition from the public sector.

Rural communities and small towns in this country are somewhat on the horns of a dilemma. There is no argument that the needs exist. However, the technology and the affordability of these facilities are beyond their limited means to meet their share of the capital costs as well as the operating and maintenance costs.

The choice of technology for wastewater treatment for small communities is a function of many factors. As someone said earlier today in their testimony, the conventional way of collecting sewage and running it to a treatment plant is through sewer lines that have to run downhill. That is one of the first things that I learned in engineering school. When you have to go long distances, especially in hilly country, some of those sewer lines have to be put in trenches 20 and 30 feet deep. You can imagine the astronomical cost of having to lay those sewers, and even greater cost to maintain them at that depth.

We would propose that more innovative collection systems be authorized. Pressure systems or vacuum systems where you use smaller plastic pipe have been successfully used many places in this country. They can be installed in shallow trenches and they do not have the severe alignment problems that the conventional gravity sewer requires. Furthermore, they are not as sensitive to peak load or wet weather conditions.

I noticed in the morning newspaper that President Clinton is calling for the use of innovative technology in partnership with the private sector. This is a perfect example of where that innovative technology can be utilized.

ACEC would like to suggest in response to the suggestion about grant programs that the Congress begin a demonstration project grant program where selected small communities are authorized to use innovative technology at less cost for the solution to their wastewater problems. Then the results of that technology should be disseminated to the rest of the country to illustrate the effective use of innovative technology.

We had a situation here last year where one of our member firms won an engineering excellence award for the innovative design in South Carolina where a wetlands project was used for wastewater treatment solving two problems at the same time at very low cost. Such a grant program, in our view, would be very innovative for the Congress and we think very cost-effective.

ACEC has supported and continues to support the use of the SRF as being probably the best use of the Nation's funds to fund wastewater projects. However, sad to say, the administrative burdens on the small towns and rural communities have not permitted them to be as active a participant in the revolving funds as they could be. We would like to suggest that some easing of those administrative burdens be considered by the Congress.

We also note that there are excessive Federal requirements and regulations in such areas as the use of the Davis-Bacon Act, which in my own experience do not apply in small towns. We had a case

in Atoka, Oklahoma where a water system badly needed to be built in which the Davis-Bacon wage rates were imposed. I guarantee you that those plumbers and workers in Atoka would have been glad to work at \$8 an hour rather than the mandated \$15 an hour that the Davis-Bacon law requires. We think that the easing of the requirements would create more jobs and be a better use of the country's money.

We think small communities can be helped through administrative remedies such as easing of the section 201 planning requirements which place restrictions on funding collectors and combined sewer overflows and hinders project design; by simplifying and streamlining the application process; by exempting small communities outside of the standard metropolitan statistical area from Federal regulations such as the Davis-Bacon Act; and by allowing small communities, through a demonstration grant program, to use alternative technologies which can be done at lower capital and operational costs.

In closing, Mr. Chairman, I would like to tell the committee what we have been doing at ACEC to help solve America's infrastructure problems. We are a founding member of the Rebuild America Coalition, which includes 57 public and private organizations committed to the infrastructure rebuilding challenge. The current chairman of that commission is Maynard Jackson of Atlanta, who has been volunteering his time and effort to help focus public attention on innovative ways to finance the refurbishment of this Nation's deteriorating infrastructure.

This plan has been presented to President Clinton and he has essentially endorsed the concept thereof.

Thank you very much for the opportunity to be here to present the testimony on behalf of the American Consulting Engineers Council. We appreciate your recognition, Mr. Chairman, that rural sewage treatment is a necessary public good and a vital element of public trust in Government. We would welcome the opportunity to provide assistance and support to you and your subcommittee as you work to ensure that America's future water needs are met. I would be most happy to answer any questions.

Thank you, sir.

Mr. APPLGATE. Thank you very much, Mr. Sprehe.

I apologize for mispronouncing your name at the beginning.

Mr. SPREHE. It happens every day.

Mr. APPLGATE. It isn't like mine. Mine is easy, but some others are difficult at times.

Mr. Siragusano, you were talking about costs between \$80 and \$90 per month per user. Are these costs with or without SRF assistance? If they are without assistance, do you know what the cost would be with the SRF assistance?

Mr. SIRAGUSANO. The SRF funds are involved in these rates. Also, an alternative plan was taken into consideration for some of these projects that we have in planning. So we're not strictly staying with gravity sewer lines. We are going to an alternative design to try to get the cost down. But even with alternatives, a lot of these projects are prohibitive. We just cannot afford them. If the interest was 2 percent, we would have problems paying back the loan.

Mr. APPLGATE. I think you make the point that perhaps a combination of grants and loans would be necessary to make projects affordable for a lot of the small communities. If Congress were to reinstate a grants program, what should be an appropriate share of the cost? And should a grants program include loans as an element?

Mr. SIRAGUSANO. I feel that a matching grants/loan combination would work well.

Mr. SPREHE. I think I would agree with that. Mr. Gilchrest was talking about a little town in his State. This was an ideal situation where innovative technology could solve that problem. A grant to design and fund part of that construction and then the SRF use to complete the construction and perhaps to help pay through investment the operating costs would be ideal for that little community. At the same time, the rest of the country would be learning how to do it differently. We don't have to keep running sewers downhill. We can pump that stuff.

Mr. APPLGATE. That makes sense.

I again may submit questions to each of you subsequent to this meeting and would appreciate you answering them.

I will yield to Mr. Inhofe.

Mr. INHOFE. Thank you, Mr. Chairman.

Mr. Sprehe, you had said that there are 4,500 firms within your association?

Mr. SPREHE. That's correct.

Mr. INHOFE. You commented on working with the private sector. Do you have any real good examples in Oklahoma where this has been successful?

Mr. SPREHE. Where consulting engineers have been employed by a small town or rural community, and frankly because there were not Federal funds involved, they were able to use innovative technology to solve the problem. That would be an example of the private sector solving the problem without being in partnership. That is what I am suggesting, that that partnership could take place.

Mr. INHOFE. I am suggesting from my own personal experience is that oftentimes you meet with resistance from governmental agencies when there are certain types of participation from the private sector that might in some way threaten the Government.

For example, when I was mayor of Tulsa we did probably more privatizing than we have ever done collectively in the rest of the history of Tulsa. They worked very, very effectively. Do you run into resistance sometimes on private participation in some of these efforts you're involved in?

Mr. SPREHE. Not from the private sector.

Mr. INHOFE. I am talking about from the Government.

Mr. SPREHE. Yes, sir. The application of standards and rules and requirements from some of the governmental agencies makes it very difficult sometimes for the private sector to provide the best service to their clients. As I said, we would strongly urge the Congress mandate some easing of those restrictions.

Mr. INHOFE. Mr. Sprehe, when a consulting engineer is involved—I know there are different where fees are paid—isn't it quite often the case that the fees are not paid until a grant is received?

Mr. SPREHE. Sometimes that is the case.

Mr. INHOFE. In the case of Mr. Hayes who was talking about the problems in some of the cities and small townships in New Orleans not having access to any of the professional advice, with 4,500 members it would seem to me that they are spread around pretty much of the Nation.

Are your firms pretty well in areas where anyone can seek that kind of advice?

Mr. SPREHE. Yes, they are. The Government had another program, the Energy Conservation Program, in which engineers were used to write up the grant applications to be sure they were accurate and well-substantiated and they were very helpful to those communities that did that. The same principle could be involved in this situation where the engineer could provide the expertise that the small town may lack in the preparation of the grant application.

Mr. INHOFE. Speaking of that particular program, that was a program where we qualified in the city of Tulsa for one of the energy conservation programs and we turned the grant back because the things they were pursuing were things that we felt we could do better without having to spend public funds on.

That is kind of unusual and I had forgotten all about that.

One thing I would like to ask you to do—and maybe you have already done it—is to come up with some figures that can be used in Congress as to the actual cost of compliance with the Davis-Bacon Act in terms of jobs and in terms of projects. In Tulsa, we had to comply with the Little Davis-Bacon Act in conjunction with the bond issue and it ended up that we could have done 18 percent more in terms of projects and would have employed that many more people also.

Do you have any comments about that? Have you conducted any such study where we could be armed with some of this information?

Mr. SPREHE. I guess ACEC has done that very study in response to a request from Congress and for our own use. I think your 18 percent number is way low. I think it is probably more like 30 percent. That is 30 percent of the money that is wasted so that more people could go to work.

Mr. INHOFE. That case was not in a labor-intensified type of public works project, so it would normally be higher than that.

But that is something that really bothers me because I know that a lot more people could be working, a lot more projects, and a lot more bang for the buck as far as the public investment is concerned. I think we rely on professionals like you to give us that information so that we can share that at appropriate times up here.

Mr. SPREHE. That is especially true in the small towns and rural communities.

Mr. INHOFE. I appreciate very much your being here today and bringing this expertise to us.

Mr. SPREHE. Thank you.

Mr. APPLEGATE. Thank you very much, Mr. Inhofe. It looks like you and I are the last of the Mohicans.

I would say to you, Mr. Sprehe and Mr. Siragusano—and Mr. Rubin is still here—how much I appreciate the expert testimony.

It has been very, very meaningful, very objective, and certainly it will play a large role in the final conclusions of this bill. I hope that we reach a final conclusion some day because we have a great deal to go through before we will be able to submit legislation to address all the problems that we have and to meet with the President to find out exactly where the Administration is going to be and what kind of support we can rely on from them with regard to support for funding.

We have a great deal of work ahead of us and you have helped to make that a little bit easier. I thank you very much for appearing before the committee.

[Subsequent to the hearing, post-hearing questions were submitted to the witnesses. The questions and responses follow:]



**National Society of  
Professional Engineers**

March 22, 1993

The Honorable Sherwood Boehlert  
Ranking Member  
Subcommittee on Water Resources and the Environment  
Committee on Public Works and Transportation  
U.S. House of Representatives  
Washington, DC 20515

Dear Representative Boehlert:

Thank you for the opportunity to provide supplementary information to my February 23, 1993, testimony on the wastewater treatment needs of small and rural communities. Specifically, I am responding to the questions submitted in your correspondence of March 2, 1993. For your convenience, I have repeated those questions and then provided NSPE's replies.

**"On page 7 of your testimony, you state that renewal of the former Construction Grants program or the establishment of a comparable program within the Corps of Engineers is unnecessary and, in fact, counterproductive. Could you elaborate? Would a small, targeted grants program for rural communities be appropriate? Also, what, if any, role would be appropriate for the Corps of Engineers?"**

Renewal of a Construction Grants program for wastewater treatment infrastructure in any federal agency is counterproductive to the efficient distribution of limited financial resources, thus delaying water quality improvements. Reinstitution of the Construction Grants program will result, again, in a missed opportunity on the part of the federal government to maximize the impact of its funding support. The primary weakness of the former Construction Grants program was that local governments were not required to repay the funds, and thus the federal government recouped none of its initial capitalization for further disbursement. This, of course, is a major strength of the State Revolving Loan Fund (SRF) program. The Construction Grants program, because it failed to recycle its funding, in effect placed a limit on the total number of communities that would have been able to receive funding in the future.

Another disadvantage with the grant program was that it tempted states and localities to postpone projects with the hope of a federal grant instead of encouraging them to finance projects through other options at their disposal, such as rate increases. The grant mechanism, then, in a sense penalized those communities that had made the tough choices

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and increased rates or found other options for financing wastewater treatment projects without federal government assistance, and rewarded those communities who waited. The end result was that necessary infrastructure improvements were delayed, and thus the public and the environment were poorly served.

As I stated in my February 23, 1993, testimony, we recognize that a grant mechanism may be appropriate for addressing the environmental infrastructure needs of some economically-distressed small and rural communities who truly cannot afford a loan. However, the establishment of an additional small community infrastructure grant program within the U.S. Environmental Protection Agency (EPA) or the U.S. Army Corps of Engineers to address this need is unnecessary at this time. There are several federal and state programs already in place that meet the grant needs of small communities. Rather than establish new programs that would only duplicate existing activities, and concurrently spread limited funds too thinly across all programs, we would recommend instead that Congress provide additional funds to the federal grant programs already in operation.

Regarding the specific role, if any, that the Corps of Engineers should play, we do not believe that the Corps has a role to play in providing wastewater treatment or public water supply design and construction services to local communities. The SRF program appropriately provides for a transfer of primary responsibility back to the state and local level, while concurrently returning to those governments the flexibility to remedy the most harmful water quality problems in each of their jurisdictions. This movement toward decentralized responsibility and funding of environmental infrastructure has resulted in vast improvements over the previous Construction Grants program. To revert to a centralized management solution, such as that initially proposed for the Corps of Engineers during the 1992 Water Resources Development Act debate, would be counterproductive.

**"On page 7 of your testimony, you express support for legislative and regulatory changes that would remove obstacles to private sector participation in providing water and wastewater treatment or water supply services. Could you elaborate on some of the specific changes? Would you care to comment on current Federal regulatory efforts to encourage privatization?"**

As you are well aware, the legislative and regulatory issues that have surfaced in connection with wastewater treatment privatization are complex and we have not thoroughly studied each of the ramifications.

At this time, we would suggest at least a statutory change that could clarify the treatment of privatized wastewater treatment facilities under the Clean Water Act. Congress, through a modification to the Clean Water Act, should provide a statutory definition of a "Public purpose treatment work" (PPTW) that would place it on a par with a Publicly-owned treatment work (POTW). Privatized facilities meeting the same public purposes as POTWs should be recognized in the statute. It is only logical that Congress and EPA extend the same regulatory programs to privatized systems as currently apply to POTWs, such as

effluent limitations based on secondary treatment rather than BAT/BCT standards and exclusions from the requirements of the Resource Conservation and Recovery Act for domestic sewage. A statutory definition could clarify for EPA that such privately-owned facilities are to be treated in the same regulatory manner as POTWs, and, equally important, would send a clear signal from Congress to the public and to EPA that it considers privatization a viable option.

We compliment EPA for its diligent efforts to implement Executive Order 12803 on Infrastructure Privatization. Through public meetings, the agency has brought together representatives of states and localities, engineering service providers, environmental groups, labor organizations, investment experts, and others to discuss the breadth of issues. Unfortunately, the agency was forced to curtail its public meeting process due to budget reductions late last year. We hope that the Agency will find alternative methods for involving all affected parties as it continues to explore regulatory approaches and prepare recommendations to Congress on infrastructure privatization.

**"Would your organization support a set-aside for encouraging innovative or alternative technologies? If so, should it be modeled on earlier provisions in the Clean Water Act prior to the 1987 amendments? If not, what other mechanisms could be used to encourage innovative or alternative wastewater treatment alternatives?"**

The engineering profession has introduced numerous innovative and alternative technologies that have proven themselves and now provide cost effective and high-quality treatment of wastewater. Certainly, the engineering community will continue to recommend innovative and alternative technologies for future construction projects if lowered costs and increased environmental and public health have been demonstrated.

We recognize, however, that communities may be reluctant to accept an innovative or alternative technology because of the risks associated with an untested technology. It is not surprising that communities are hesitant to accept the financial repercussions or project delays that could result if the technology fails and rework is required.

To boost public confidence, as well as weed out ineffective technologies before they reach the marketplace, the federal government could play a supportive role through funding an innovative and alternative technologies demonstration program. If such a program were to be funded, it should be stringently managed to ensure that it did not become a vehicle for earmarking. A small-scale program that awarded funding competitively through a merit review process would provide an opportunity to test truly experimental proposals. Funding for this type of research program should be in addition to, not at the expense of, federal funding provided for the SRF program. In addition, a cost-share requirement should be placed on the recipient community if the project is proven successful.

We would favor this approach for stimulating innovative and alternative technology development, rather than a mandatory set-aside of a percentage of SRF funding. Set asides

are more appropriate for redressing "unfair" distribution of limited resources, rather than for promoting particular technology improvements. In addition, a set-aside would restrict state government flexibility to respond most effectively to their local community needs. If state and local governments can meet their Clean Water Act requirements with existing technologies, they should not be required to segregate a portion of SRF funds specifically for testing unproven innovative and alternative projects. The set aside could thus delay state and local government compliance with water quality mandates because they were effectively precluded from full access to all of their appropriated resources.

**"What, if anything, could Congress do to encourage increased water conservation and efficiency? Has your organization found such efforts to be critical in reducing POTW capital and operating costs, user rates, water use, and pollution?"**

While water conservation and efficiency initiatives do have some effect on reducing wastewater flows, such a reduction will not have a major effect in reducing the capital cost of wastewater treatment facilities because they are not only designed based on flow, but also on organic loading. Organic loadings do not decrease as a result of water saving devices, but rather increase in concentration. Likewise, the higher concentration of solids entering the sewer collection system due to lower quantities of water will probably not result in reduced sizes of gravity sewers unless slopes and sewer depths are increased, offsetting any savings. While the construction costs of wastewater treatment facilities would not be appreciably effected, there will be limited cost savings due to lower wastewater flows in the size of force mains and wastewater pumping stations, which are designed on the basis of flow quantity and the elevation to which the wastewater must be lifted, rather than on organic loading or solids concentration.

We recognize that the justification for water conservation and efficiency measures may not be primarily directed to reductions in wastewater treatment facility costs, but is more likely directed toward water quantity issues, environmental protection, energy policy, and other areas. As such, congressional actions in support of water conservation and efficiency must be based on a complete examination of the impact of such measures in all of these areas. We support water conservation practices that are based on reasonable, beneficial use rather than on simply a reduction of demand. Furthermore, the agricultural, industrial, residential, and public sectors can all institute water conservation practices, including modified land use practices, the redesign of industrial or residential equipment or appliances, and proper design of water infrastructure facilities. The private sector and federal and state government have already initiated numerous activities to encourage such changes and further incentives are welcomed.

An important mechanism for encouraging water conservation that should not be overlooked is the use of water and wastewater rates for decreasing the usage of water. For example, I am familiar with a small town in Texas that did not meter water usage. Instead, each household was charged \$3 per month for unlimited usage. After my firm recommended to this town that their rates be based on a charge per gallon rather than a flat fee, water usage

in that town was cut about 75 percent. While this is an extreme example, it nevertheless demonstrates the effectiveness that rate structures will play in water conservation. While we would not support a federal government role in establishing water or wastewater utility rates, EPA, the states, and private sector organizations, through their technical assistance and outreach activities, may be able to encourage local governments to induce water conservation through restructured rate levels.

**"Do you have any specific comments regarding a technical assistance program? Would it be appropriate to establish or provide greater assistance regarding financial management, grant/loan administration, engineer selection, and operator training?"**

Providing technical assistance to small communities in the areas of financial management, grant/loan administration, engineer selection, and operator training is essential to their ability to meet the statutory requirements of the Clean Water Act. We note that the federal government is already providing such assistance to rural communities through the "circuit rider" program sponsored by the Rural Development Administration. In addition, EPA and the states provide such services in the course of its grant/loan administration function. If Congress is to expand the technical assistance services provided directly through government agencies, we would urge you to strengthen existing capabilities and allocate additional resources rather than establish a new structure. We would also urge that you not limit your options solely to government agencies, as we do not believe technical assistance is inherently a governmental task. Higher education institutions, professional and technical associations, and the private sector already provide, or have the capability of providing, such assistance.

**"How much could be saved by eliminating the Title II grant conditions and cross cutting requirements?"**

We have not documented the cost of compliance with the Title II grant conditions and cross cutting requirements and are unaware of such estimates from other organizations; however, it is obviously a significant percentage of initial project costs. We believe that these requirements do place an administrative burden on communities of all sizes that, if eliminated, would undoubtedly reduce project costs.

**"At what point will the SRFs be adequately capitalized allowing a reduction or elimination of continued Federal funding?"**

The time period necessary for completing the task set out for the State Revolving Loan fund program is influenced by a variety of factors and thus cannot be determined definitively. Obviously, the actual level of appropriations provided by Congress through the annual federal capitalization will determine the longevity of the program. If funding is provided at less than authorized levels or on a sporadic schedule, the states receive a lesser capitalization grant and thus are able to fund fewer projects. Expanding the scope of the SRF program to include additional eligible activities and/or steadily increasing discharge

requirements without increasing appropriations will also extend the period of time for which continued federal appropriations will be required.

I also emphasize a point made in our February 23, 1993, statement that EPA's conveyance of appropriations to the states by letters of credit in lieu of the originally-contemplated cash payments restricts the ability of the states to leverage their federal capitalization grants and thus maximize the use of the federal funds. Unless the payment of federal capitalization grants are made as cash outlays on a negotiated schedule, Congress should expect a longer period of time before it can terminate its capitalization grants without harming the revolving loan funds.

In closing, I would like to take this opportunity to respond to comments you raised with state and local government witnesses at the February 24, 1993, hearing as to the availability and utility of "off the shelf" package wastewater treatment facilities as a cost saving measure for small communities and your related comment on the cost of engineering design services for such communities.

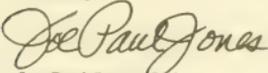
There are many manufacturers of "off the shelf" package wastewater treatment plants, and those packages do play a role in the small community. However, it has not been our experience that those package plants can operate properly unless they have been incorporated into an overall design prepared by a qualified engineer. This overall engineering design takes into account circumstances that can not be pre-determined by a package facility design, such as the specific quality, quantity, and frequency of peak flows of the local wastewater. For example, an engineer must determine whether the limiting factor of a treatment plant is in the aeration tank or in the clarifier, whether surge capacity is required, and the type of aeration equipment that will function most effectively. An engineer's services are also required to evaluate whether the effluent requires secondary or advanced treatment and whether it can be discharged directly to a stream or reused. Furthermore, there is no "off the shelf" or package collection system; sewer systems will always have to be designed based on specific site conditions. Thus, while "package" facilities do offer the engineer one element of the total wastewater treatment system design, they by no means eliminate the considerable amount of additional design work necessary for the effective operation of a treatment system.

Regarding your inquiry as to whether the cost of engineering services provided to small communities may be unnecessarily high because engineers are redesigning basic features of treatment systems that can be easily replicated through "off the shelf" technologies, we would suggest instead that the higher cost per gallon charge for small community projects compared to projects in larger communities is instead a result of the additional services that the consulting engineer provides to the small community as well as the fixed cost of the basic contract documents for projects of any size. A consulting engineer's role in the small community project goes far beyond design work to include many of the elements of what you have defined in an earlier question as "technical assistance", including financial and

regulatory management. Many larger communities have sufficient in-house capability for managing these technical and administrative functions, and as a result, the engineering firm does not provide such services. In a small community, however, where in-house capability for performing financial management and grant/loan administration is lacking, the consulting firm is expected to provide these additional services and must set its fee accordingly.

I hope that these responses provide assistance to you and other members of the Water Resources and Environment Subcommittee as you address the wastewater treatment needs of small and rural communities. Should you or other members of the Subcommittee desire further information, I would be happy to provide additional details.

Sincerely,

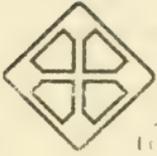


Joe Paul Jones, P.E.  
President

cc: Honorable Doug Applegate  
Chair, Water Resources and Environment Subcommittee  
Joseph A. Italiano  
Committee Editor

Mr. APPLEGATE. With that, this meeting is adjourned until 10:00 tomorrow morning.

[Whereupon, at 1:25 p.m., the subcommittee recessed, to reconvene at 10:00 a.m. Wednesday, February 24, 1993.]



National  
Association of  
Towns and Townships

PREPARED STATEMENTS SUBMITTED

BY WITNESSES

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**TESTIMONY OF**

**TOM HARNISCH**

**LEGISLATIVE REPRESENTATIVE  
OF THE  
WISCONSIN TOWNS ASSOCIATION**

**BEFORE THE**

**WATER RESOURCES AND ENVIRONMENT SUBCOMMITTEE**

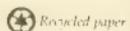
**HOUSE PUBLIC WORKS COMMITTEE**

**REGARDING**

**RURAL SEWAGE TREATMENT NEEDS**

**FEBRUARY 23, 1993**

1522 K Street, N.W., Suite 600, Washington, D.C. 20005-1202  
(202) 737-5200 FAX (202) 289-7996



Good morning. My name is Tom Harnisch. I am the Legislative Representative of the Wisconsin Towns Association, on whose behalf I am here today. I am also representing our national organization, the National Association of Towns and Townships (NATaT). The Wisconsin Towns Association represents 1257 towns and 9 villages in Wisconsin and NATaT represents over 13,000 mostly small, mostly rural communities across the United States. I appreciate the opportunity to testify before the subcommittee about rural wastewater treatment needs.

I would like to emphasize to you that our nation is one of small communities. Of the 39,527 units of general-purpose in the United States, 85% represent populations of less than 10,000. Almost half (47%) represent populations of less than 1000 persons. Most of these are the rural communities that we are talking about here today.

In Wisconsin, there are 1,266 towns, ranging from 29 people in the Town of Cedar Rapids in Rusk County to 22,000 people in the town of Caledonia in Racine County. Over 800 towns in Wisconsin have fewer than 1,000 people. Thirty-one percent of the state's population reside in towns, which serve the unincorporated areas of the state. We are what in some states are called townships. Villages and cities serve the incorporated areas of the state. Town governments in Wisconsin have the authority to create sewer and water districts as part of their town government function, or often these towns may create a new special purpose district for sewer and water called a town sanitary district.

#### **The needs of small communities**

Since the end of General Revenue Sharing, small local governments typically do not receive funds from the federal government. General Revenue Sharing was the last broad federal investment program in rural America. Municipalities with populations of 50,000 and greater generally receive federal funds from one or more entitlement programs such as the Community Development Block Grant program. Very small communities are left to scramble for funds from the Farmers Home Administration, the Economic Development Administration,

and small cities CDBG funds. NATaT has estimated that 80 percent of local governments receive no money from the federal government; it is safe to assume that the 80 percent was predominantly small governments.

These limited sources of federal funds are the only federal contribution small communities receive, if they receive any funds at all, to pay for not only Clean Water Act mandates, but also Safe Drinking Water Act mandates, landfill design mandates, ADA mandates, and the many other unfunded mandates passed on to local governments over the past two decades.

I would like to briefly touch on a couple of points about wastewater treatment in small communities. This subcommittee has, no doubt, heard many statistics about the needs of wastewater treatment in small communities. The U.S. EPA's *1990 Needs Survey Report To Congress* stated that as much as \$110.6 billion is needed in capital investments over the next 20 years for wastewater treatment facilities. The Association of State and Interstate Water Pollution Control Administrators has estimated that capital investment for wastewater treatment in small communities with populations of 5000 or less will exceed \$10 billion in the next ten years.

Rural wastewater treatment needs have been largely unmet because they have been subordinated to the needs of large metropolitan areas. Under the Construction Grant program created by Title II of the Federal Water Pollution Control Act (the Clean Water Act), \$55 billion in funding was available from 1972 to 1990 for new construction or upgrading of publicly-owned treatment works (POTWs). Grants covered from 55 percent to 75 percent of construction costs. Systems serving 500,000 or more customers received 25 percent of all Construction Grant funds, but represented only two-tenths of one percent (0.2) of all POTWs.

Under the CWA amendments of 1987, the Construction Grants program was phased out and replaced by a federally capitalized revolving

loan program administered by the states (known as the SRF). This program has been criticized because often the money in the SRFs does not make it way down to smaller communities in the states. The timing could not have been worse, for while EPA funding has moved from grant funding to loans (to the disadvantage of smaller communities that fundamentally need some grant assistance), the federal and state government have also focused far more enforcement activities on small POTW compliance.

The *1988 EPA Needs Assessment* revealed that three-fourths of all documented facility needs were in rural communities with fewer than 10,000 residents. The cost of addressing those needs was estimated at that time to be \$13 billion, or roughly a quarter of the total national needs identified by EPA. Unfortunately, the *1990 Needs Assessment* does not allow a similar breakdown.

It is safe to say that the *1988 Needs Assessment* underestimated future costs, as does the *1990 Needs Assessment*. Some of the critiques of the *1988 Needs Assessment* are contained in the 1992 General Accounting Office report *State Revolving Funds Insufficient to Meet Wastewater Treatment Needs*, which was requested by the former chairman of the full committee. That report noted that the actual investment required was much higher than the \$83.5 billion cited by EPA. Costs associated with replacing wastewater treatment facilities were not included because replacement costs were not eligible in the past, as well as the costs of nonpoint source pollution and estuary protection.

While some of those costs are captured in the *1990 Needs Assessment*, those estimates are still low. Only "documented" needs which meet specified criteria established by EPA are captured. Many unsewered communities have not met strict needs assessment criteria and are not included. People in these areas, which are most likely unincorporated, probably are well aware that their septic systems are failing and the 17 acceptable criteria for documenting needs are unknown and irrelevant to them. Small local governments, already

strapped for cash, are not going to incur the expense necessary to document their needs without some expectation of being funded.

EPA's *1990 Needs Assessment* openly admits that certain cost estimates were not included because of the difficulty of determining those costs, the most notable example being for combined sewage overflows. The costs of complying with Phase I and II of the industrial stormwater discharge permitting program are also very uncertain.

#### **Sewage treatment needs in rural Wisconsin**

The needs of rural areas in Wisconsin vary from the need for a complete sewer system (collection systems and treatment plants) to collection systems to be linked to existing treatment plants to the need to upgrade current systems to meet state compliance requirements for maintenance of existing treatment facilities. It is estimated that, of the entire State of Wisconsin, approximately 75 percent of the population is currently receiving sewer service from public systems. However, the majority of rural areas still remain unsewered. Certainly, not every farm home in Wisconsin will or should be in the near future connected to a public sewer, but as the population spreads across the state, rural needs for sewer systems will grow.

In Wisconsin, the issues related to rural wastewater treatment can be categorized into three distinct types of physical settings. First, many rural unincorporated communities, better called "crossroad communities," sit at the intersection of two highways or local roads, have 50 to 100 homes or less, a tavern, feed mill and a grocery store (now often closed). They have no sewer systems or have treatment plants that need major upgrading to meet the ever changing limits and requirements for wastewater treatment. The homes have private septic systems, often failing, where the septic systems may be 30 to 40 years old. If the community has a treatment system, it too is frequently outdated and does not meet today's treatment standards. Since these communities are often unincorporated, they are the responsibility of the town.

The second physical setting of needs in Wisconsin for rural wastewater treatment is existing developments of cottage and recreational homes along or near lakes and river fronts. With Wisconsin's extensive water frontage and recreational developments (over 15,000 lakes), many of these residences, although seasonal when constructed, have been converted to year round residences. Yet many of these properties also have private septic systems constructed many years that do not meet today's minimum standards. These systems are often failing or non-functioning. The failure of these systems then results in discharges into the very clean waters sought for recreational enjoyment.

The third setting of rural wastewater needs is for existing residential developments near or adjacent to incorporated cities and villages which have treatment plants. The current state of law, following the U.S. Supreme Court decision originating from Wisconsin, Town of Hallie v. City of Eau Claire, holds that cities and villages may refuse sewer and/or water extensions into towns unless the property owners agree to be annexed to the city or village. Often due to higher tax rates in cities and villages and often due to the fact that not all individual septic systems may be failing, the town residents do not want to sign annexation petitions in support of annexation. With the reluctance to be annexed, the result is that no sewer or water extensions are offered from the city or village, even though some town residents may have major contamination and environmental degradation on their property from these failing sewage systems. These systems can and do cause major public health concerns within these towns.

This problem is complicated because of the existence of local political turn battles between city or village officials and the local town. The Supreme Court, in the Town of Hallie decision cited earlier, held that cities and villages do not violate federal antitrust law by refusing to extend sewer or water lines into the adjoining town without annexation. However, it must be pointed out to this Subcommittee that under federal law, the city or village treatment plant often received federal and state funding based on a required "local service area" which included the adjoining town property area.

We believe that if federal or state funds are used to construct and create sewage treatment capacity based on a service area outside the city or village, then the funds received from the federal and state government, which are overwhelmingly tax dollars paid by all citizens, should be used to service the total described area without the condition of annexation to the village or city. This refusal to extend such lines without annexation results in the failure to meet the environmental and public health needs of the service area. In fact, in the mid-1970s we had a town (Town of Beloit) which, because of the City of Beloit's refusal to extend sewer lines without annexation (the property owners refused to agree to annexation) resulted in a child incurring a severe illness from "ponding septage" from a individual failing septic system in the town. The refusal of sewer extensions should not be used as a tool to force annexation when environmental degradation then threatens and endangers the public health.

This Subcommittee should affirm the right of an area to receive sewer lines without the requirement of having to be annexed if the area was in a proposed service area for a federally funded water treatment receiving funds under the Federal Water Pollution Control Act. We acknowledge that any sewer extensions to these service areas should be provided only where there is existing residential development, where the systems now have been failing and where environmental degradation is occurring. To force extensions for new or future development would be to promote rural or urban sprawl.

Another policy in Wisconsin which is contrary to the concept of putting environmental needs first in the State is the Department of Natural Resources' (DNR) policy of "nonproliferation." This policy means that the State refuses to allow towns to develop their own individual treatment plant alternative. While regional concepts are often most cost effective, rather than a number of small plants, if the city or village refuses to extend sewers without annexation or refuses to allow the town, through its own town sanitary district, to purchase sewage treatment services, the result is the failure to properly treat sewage.

Frankly, the nonproliferation policy of the DNR has become, in fact, the State's major development and planning "policy." However, we believe that public health protection and environmental protections should come before the State's attempt to control growth by its sewer policy. We believe that these types of political governance issues should be put aside and the needs of public health and protecting the environment should come first.

#### **SRFs and small communities**

I asserted earlier that the state SRFs do not do a good job of getting money to smallest and neediest communities. Federal SRF standards do not require states to establish either small community set-asides or to fund innovative and alternative wastewater systems. Set-asides allow small communities to compete amongst themselves for project funding, rather than compete for funding with larger communities that are more adept at grantsmanship, have their own engineering staff, and that can generate facilities which have larger economies of scale, offering services at a lower unit cost. Costs per household can be significantly higher in a water system with 500 hook-ups versus a city of 50,000.

SRF loans are not affordable to many of the smallest communities, which cannot afford to repay loans at even the lowest rates. In the past, construction projects in small communities blended Farmers Home Administration money with Small Cities Community Development Block Grant funds or Construction Grant assistance from EPA. Many communities that would have previously relied on EPA Construction Grant money are now left with only FmHA funds, which will be severely stretched to replace construction grants money.

The Environmental Financial Advisory Board, an independent committee charged with advising EPA on financial issues and suggesting innovative funding methods, noted the special problems faced by small and economically disadvantaged communities from SRFs. The Advisory Board recommended creation of a set-aside within the SRF for small communities or a new revolving fund devoted to small

communities, and to extend SRF loan terms beyond 20 years for small communities.

Rather than run through the litany of problems facing small communities in accessing the SRF program, I would refer members of the subcommittee to the GAO's 1992 study referenced above for a more in-depth discussion of how SRFs can be made responsive to their needs. I would only note one of their principal findings: Almost three-fourths of the state SRF officials responding to GAO's survey on the performance of SRFs maintained that SRFs will not meet wastewater treatment needs in small communities.

In Wisconsin, our State Legislature has created a "financial hardship" program which has been of particular benefit to high cost rural projects. Eligibility for the hardship program is not limited to rural projects, but because eligibility for the hardship program is based on higher user charges relative to income levels and to percentage of property values, many rural projects qualify for this program. The problem in Wisconsin is that only 12 percent of the total RLF is available for hardship projects. In FY 1993, only two of the 24 projects on the "hardship" priority list could be funded by the hardship program. Twenty-two other projects, which were almost all rural, went unfunded. Actual needs identified for those remaining 22 projects exceeded \$11 million.

We would support congressional initiatives to set-aside funds for rural projects or hardship projects based on both priority needs and ability to pay. I have attached both a summary of the Wisconsin Financial Hardship Assistance program and a Priority List of Hardship Needs projects. Clearly, such a set aside will help meet rural clean water needs. Currently, rural projects must compete for dollars in the SRF with urban wastewater needs. Of the executed loan commitments for 1989-1991 under Wisconsin's Clean Water Fund, the Milwaukee Metropolitan Sewage District received \$204 million of the \$421 million available under the entire Clean Water Fund. This drain of dollars for the most urban needs puts rural areas at an extreme disadvantage.

**Innovative and alternative approaches need to be encouraged**

Innovative and alternative systems, such as the use of constructed wetlands or lagoon systems, can help small communities, individual households or rural subdivisions afford wastewater treatment. Rural areas are ideal for such innovative systems, having the land area available and a lower population density. These systems have the further benefit of requiring lower operations and maintenance costs than traditional mechanical systems, thus lowering total project costs, and eliminate much of the need for collector systems, which can add up to 80 percent of a rural wastewater system in sparsely populated areas.

For further information on alternative systems, I would refer the subcommittee to the testimony of Bill Buckrop, who testified on behalf of NATaT before the Investigations and Oversight Subcommittee last year during their hearings on constructed wetlands.

In his township, secondarily treated effluent from 10,000 persons in three townships is pumped via pipeline to the edge of a wetland. The pipe surfaces and continues across the wetland for 1/2 mile on a wooden dock. It then splits into a "T" and continues for 1/4 mile in each direction. Effluent escapes through slots every 10 feet along the outside of the 12-inch pipe. The effluent, which has already been treated to State and Federal secondary treatment standards, flows slowly overland towards the Muskegon River. The wetland, through soil absorption, plant uptake, and microbiological mechanisms, further treats the effluent to very high levels by the time it reaches the wetland outlet.

The wetlands option was completed for \$600,000, compared to a \$1.6 million conventional system that was under consideration, largely because of savings in construction cost. Since 1978, more than 1 billion gallons of water have been treated in the wetland, federal standards have been met and the treatment facility and the wetland process have received many awards.

**Technical assistance to small communities**

One of the biggest needs for small communities in planning and financing wastewater projects is technical assistance programs. Small communities with part-time or no professional staff often lack the expertise to address the many aspects of wastewater improvement planning. Through technical assistance from federal and state agencies and private organizations, local governments can decide what options are most appropriate for their community.

NATaT has a grant from the U.S. EPA's office of Research and Development to operate a Technology Transfer Center that provides materials to help small communities solve environmental problems, including wastewater needs. The responses generated by the Center are issue-specific, state-specific and agency-specific. NATaT staff has reviewed available resources and selected those that provide a balanced view of the problems and solutions, are written in understandable language, and are affordable to towns with limited finances. Technical assistance agencies and organizations are listed for the state or region from which the request is received (e.g. state Rural Water Association, regional Rural Community Assistance Programs). Regulatory and financing agencies are also listed by state with a brief explanation of the roles played by each for local officials just learning the issue and where the various actors fit in.

NATaT regularly interacts and exchanges information with the Rural Community Assistance Programs, Rural Water Associations, and the Small Flows Clearinghouse, two other organizations that provide valuable technical assistance to small communities. A member of NATaT's staff, Hamilton Brown, serves on the National Environmental Training Center for Small Communities, which is funded by the EPA to offer training and materials for small town water, wastewater and solid waste services. The Center is focusing on the need to integrate the efforts and strategies of the regulatory, funding, monitoring and technical assistance agencies with what is affordable and effective at the local government level. The federal government can provide valuable

leadership to small communities through such efforts as the National Environmental Training Center for Small Communities.

NATaT has written a guidebook for small communities entitled *Treat It Right: a local official's guide to small town wastewater treatment*. The purpose of the book is to guide small town leaders through the overall wastewater treatment process and to help them arrive at an affordable solution. When federal grants were more widely available, many communities relied on outside funding to cut their share of construction costs. Now community leaders find it necessary to save money by selecting low cost, low maintenance systems. Guides such as this one that explain requirements in simple language are very useful in small communities.

### **Conclusion**

We encourage the federal government to fully fund the SRF program, which has been funded at less than authorized levels since its creation. We also would like to see some attempt on the federal government to encourage states to use their SRF monies to address rural wastewater needs, including set-asides for hardship cases and allowing low-cost alternative means of wastewater treatment for small communities.

Small communities understand that in this time of federal fiscal constraint, money is not always available to help them with many of their infrastructure needs. If that is the case, the federal government owes it to small communities to make alternative, flexible approaches available so that we can comply with federal mandates, or at least eliminate that bias against them. Small communities cannot be expected to spend vast amounts of money on expensive technologies that are not appropriate for their size.

Federal and state requirements should be reviewed to ensure that there is flexibility given to local governments to implement systems that are best suited to their individual needs. There is more noncompliance in small systems with complicated mechanical processes, where there is operator error, than in small simple systems.

The federal government also needs to provide more technical assistance to small communities to comply with federal mandates.

Through assistance with facility planning, financial management, grant/loan administration, engineer selection and operator training, small communities can make projects more affordable.

CLEAN WATER FUND FINANCIAL HARDSHIP ASSISTANCE PROGRAM UPDATE

Chapter NR 163, Wis. Adm. Code, administrative rules for the financial hardship program was finalized in November 1991. The rules were prepared by DNR staff with the assistance of the Clean Water Fund Ability to Pay Advisory Committee. This committee was composed of Department of Natural Resources, Department of Administration, Department of Development, U.S. Farmer's Home Administration staff, a consulting engineer, a municipal finance manager, two legislators and a town sanitary district official.

It is required that a municipality seeking financial hardship meet two criteria. These criteria are established in State Statute under s. 144.241(13), Stats., and are as follows:

- a. total charges imposed on residential users in the municipality that relate to wastewater treatment as a percentage of the total adjusted gross income (income factor) must exceed 1.5% and
- b. total charges imposed by the municipality that relate to wastewater treatment as a percentage of the total equalized value of property in the municipality must place the municipality in the 25% of municipalities with the highest percentage

The total dollars available from the Clean Water Fund for the purpose of assisting financial hardship communities is also established in statute and is set at 12% of the total subsidy given in any year.

SUMMARY OF THE HARDSHIP PROGRAM:

1. Each year, a funding list of municipalities determined to meet the criteria established in the statute will be prepared. Municipalities qualifying as hardship will be ranked on the list and funded based upon the environmental priority of their projects using criteria in ch. NR 161, Wis. Adm. Code. DNR will provide hardship funding to the extent that subsidy is available under the program.
2. Financial Hardship assistance will be available to a Step 3 project that has met the statutory criteria and has submitted an Intent to Apply form, including hardship information, by December 31. In addition, plans and specifications, and a Step 3 application needs to be submitted by the following June 30. For step 1 and step 2 applicants, an intent to apply form, including hardship information is due December 31 and a Step 1/2 application by the following June 30. Projects that do not meet the June 30 requirements may be eligible for hardship funding if they are placed on the supplemental list.
3. The municipality or municipalities proposed to be served by the construction project will be the entity or entities that will be evaluated for hardship. If the service area is a portion of a municipality, the evaluation would not be limited to only the service area of the project but would include the entire municipality. If the construction project has a service area including two or more municipalities, i.e., a regional project, the combined data for all the municipalities will be evaluated.
4. Applicants qualifying for Step 1 and step 2 financial hardship assistance will be given the assistance prior to construction, as costs are incurred. (See #6 below). The final determination of hardship assistance will be made at the time the Step 3 financial hardship assistance agreement is awarded. The determination at Step 3 will be a one-time decision. Applicants that do not qualify for financial hardship assistance at Step 3 and receive regular clean water fund loans, will not be eligible to refinance these loans with financial hardship assistance if the municipality achieves the criteria (a and b on page 1) in future years.

5. The final hardship calculation at the step 3 phase will be used to determine the amount and type of financial hardship assistance to be applied to step 1, step 2 and step 3 phases. Interest rates will be reduced below the tier 1, tier 2, or transition (2.5%) levels. Grants will be awarded if reducing interest rates to 0% is not sufficient to decrease user costs so that total charges imposed on residential users in the municipality as a percentage of total adjusted gross income is not greater than 1.5%, up to a 90% grant.
6. Criteria from the statute will be used to determine if a community qualifies for Step 1 and Step 2 financial hardship assistance. Estimated construction and operation and maintenance costs for the current project will be used in calculating the first criterion. Financial hardship will be provided to a community for Step 1 and Step 2 work based on the eligible incurred costs identified in the Architectural/Engineering (A/E) subagreement. Projects will be ranked according to their priority values. There will be one funding list based on priority values for all step 1, step 2 and step 3 hardship projects.
7. If a community no longer meets the financial hardship criteria at the Step 3 phase the community will need to repay the step 1 and step 2 costs at the non-hardship interest rate (tier 1, 2 or 3). Repayment of Step 1 and Step 2 hardship assistance will be required if a community does not proceed to the construction phase. If the cost-effective solution is a "no-action" alternative for facilities planning approved by DNR's Bureau of Wastewater Management, the municipality will be required to repay 25% of Step 1 costs at the interest rate the project would have received as a regular Clean Water Fund applicant.
8. Loans from other sources such as commercial institutions or Farmers Home Administration can be subsidized with financial hardship assistance.
9. Re-evaluation of hardship determinations will be based on more current or concise data for user charge revenues, adjusted gross income, property valuation and project costs. This procedure includes getting more concise income data for sanitary districts by collecting social security numbers.
10. Indian Tribes may participate in the Hardship program. Indian tribes must meet the first criterion, (residential user charges as a percentage of adjusted gross income is greater than 1.5%), to qualify for hardship, but by statute are not required to meet the second criterion which addresses total user charges as a percentage of property value. Because adjusted gross income (AGI) for Indian tribes is not collected by the Department of Revenue, AGI will be determined by using the most recent census income data, adjusted by a cost of living factor.

FY 1993 CLEAN WATER FUND HARDSHIP ASSISTANCE FUNDING LIST

SEQ NO.	PRIORITY SCORE	MUNICIPALITY	PROJECT#	PROJ TYPE	PROJECT DESCRIPTION	DNR DISTRICT	TOTAL AMOUNT REQUESTED	HARDSHIP PRESENT VALUE SUBSIDY	CUMULATIVE PRESENT VALUE SUBSIDY
1	86.310	Mercer SD #1	4302-01	COMP*	STPH & Sewer Extension--Steps 1 and 2	HAD	\$163,073	\$113,825	\$113,825
2	74.842	Mausaukee	4363-01	COMP*	STPH	LMD	\$3,220,580	\$2,216,840	\$2,330,665
3	70.389	Lennon	4400-01	UNSW	CS & INT--Steps 1 and 2	SED	\$506,785		
4	70.368	Pell Lake SD #1	4280-01	UNSW	STP & CS--Steps 1 and 2	SED	\$975,000		
5	70.331	Goodman SD #1	4395-01	COMP*	STPH & Sewer Rehab.--Steps 1 and 2	LMD	\$275,000		
6	69.851	Green Valley SD #1	4356-01	UNSW	CS/ForceMain to Krakow SD	LMD	\$366,346		
7	67.294	Hatfield SD #1	4046-01	UNSW	STP & CS	WED	\$1,416,300		
8	65.840	Pleasant Springs SD #1	4381-01	UNSW	Sewer Extension--Steps 1 and 2	S00	\$306,500		
9	65.439	Hewitt	4097-02	COMP*	STP Hod.--Step 3	IGD	\$1,381,200		
10	65.237	Aurora SD #1	4113-02	COMP*	STP Hod.--Step 3	LMD	\$150,110		
11	64.636	Bay City	4311-01	UNSW	STP & CS--Steps 1 and 2	WED	\$199,300		
12	62.371	Fairchild	4388-01	MEHC*	STPH and Sewer Rehab.--Steps 1 and 2	WED	\$63,060		
13	60.185	Little River, Tn.	4398-01	UNSW	CS--Steps 1 and 2	LMD	\$141,800		
14	58.275	Hunt Galvury	4350-01	COMP	STPH--Steps 1 and 2	S00	\$142,000		
15	57.448	Oconto, In.	4399-01	UNSW	CS--Steps 1 and 2	LMD	\$235,000		
16	56.542	Seneca SD #1	4315-02	UNSW	CS and STP--Step 3	WED	\$1,085,900		
17	55.259	Lincoln, In.	4355-01	UNSW	CS & INT--Steps 1 and 2	WED	\$131,220		
18	54.571	Oakfield SD #1	4325-02	UNSW	CS & STP--Step 3	S00	\$300,960		
19	54.493	Richmond SD #1	4171-02	MEHC	STPH--Step 3	WED	\$371,665		
20	50.256	Wheeler	4367-01	COMP	STPH--Steps 1 and 2	WED	\$104,400		
21	49.070	Pine Creek SD #1	4323-01	UNSW	CS and INT--Steps 1 and 2	WED	\$44,550		
22	46.070	Seatonville SD #1	4064-02	MEHC	STP Hod.--Step 3	S00	\$563,340		
23	65.758	Randall, Tn.	4279-01	UNSW	STP & CS--Steps 1 and 2	SED	\$846,000		
24	40.801	Bohner's Lake SD #1	4158-01	UNSW	CS--Steps 1 and 2	SED	\$786,000		
							\$14,576,089	\$9,316,290	\$9,316,290

Notes: There is \$1,171,058 in PV subsidy available to fund hardship assistance projects. The \$1,171,058 in PV subsidy can fund all of the Mercer SD #1 project and \$1,057,233 of the \$2,216,840 PV subsidy needed by the Mausaukee project.

Explanations for all columns are the same as those on the previous chart.



**National Society of  
Professional Engineers**

TESTIMONY  
OF THE  
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS  
ON  
SMALL COMMUNITY WASTEWATER TREATMENT NEEDS  
HEARINGS ON REAUTHORIZATION OF THE CLEAN WATER ACT

PRESENTED BY

JOE PAUL JONES, P.E.  
PRESIDENT

BEFORE THE

SUBCOMMITTEE ON WATER RESOURCES AND THE ENVIRONMENT  
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION  
U.S HOUSE OF REPRESENTATIVES

FEBRUARY 23, 1993

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SUMMARY OF RECOMMENDATIONS  
TESTIMONY ON SMALL COMMUNITY WASTEWATER TREATMENT NEEDS  
HEARINGS ON REAUTHORIZATION OF THE CLEAN WATER ACT

- Authorize and appropriate funds to the State Revolving Loan Fund (SRF) at a minimum of \$2 billion a year to meet traditional eligibilities. The SRF provides funding more efficiently, more expeditiously, and at less expense to the Treasury than does a Construction Grants program. The SRF does already and will continue to meet many small community funding needs. New expectations placed on the states and localities in the 1987 CWA amendments and possible new mandates under consideration will require additional authorization and appropriations.
- Consider extending the loan amortization period for economically distressed communities from the current 20 years to up to 30 years.
- Disburse SRF funds to economically distressed communities in the form of zero interest loans and combine SRF loans with grant subsidies from other programs for additional relief.
- Oppose deferment of loan repayments until after three years of project completion (current repayment obligation is one year).
- Eliminate applicability of burdensome Title II requirements and federal cross-cutting authorities to SRF financed projects.
- Eliminate restrictions on the use of SRF funds to pay for the costs of land, easements, and rights of way associated with wastewater treatment facility construction.
- Direct the EPA and the Department of Treasury to disburse capitalization grants to the states as cash outlays on a negotiated schedule, rather than letters of credit.
- Recommend that establishment of any set-aside within the SRF accounts for rural community assistance be voluntary rather than mandatory.
- Enhance funding of existing federal programs that provide grant assistance to small and economically-distressed communities, such as that operated by the Rural Development Administration.
- Oppose reauthorization of the EPA Construction Grants Program.
- Support legislative and regulatory changes that remove obstacles to private-public partnerships.
- Support establishment of separate revolving loan funds for potable water supply systems and solid waste disposal facilities.

Mr. Chairman and Members of the Committee:

Thank you for the opportunity to testify today before the Subcommittee on Water Resources and the Environment on the wastewater treatment needs facing our nation's small communities. I am Joe Paul Jones, P.E., and I am a Principal and Vice President of Freese & Nichols, Inc., a consulting engineering firm based in Forth Worth, Texas. I am a licensed professional engineer in Texas and the President of the National Society of Professional Engineers, on whose behalf I testify today.

The National Society of Professional Engineers (NSPE) was founded in 1934 and represents 75,000 engineers and engineering students in the United States and abroad in 535 local chapters and 54 state and territorial societies. NSPE is a broad-based interdisciplinary society representing all technical disciplines and all areas of engineering practice, including government, industry, education, private practice, and construction. NSPE's goals include serving the public, advocating the application of engineering knowledge and skills in the public interest, and influencing technical public policy. With these goals in mind, NSPE participates in the policy development process on issues affecting the public health and the environment, including the Clean Water Act.

Freese and Nichols, Inc., has provided a vast array of professional engineering services, including wastewater treatment design and technical services, to communities in Texas for nearly 100 years. Among the projects I have managed during my over 35 years employment with Freese and Nichols, Inc., have been wastewater treatment facilities ranging from standardized "package" facilities in small towns to a \$100 million facility for the Trinity River Authority between Forth Worth and Dallas. I speak primarily from the perspective of having had considerable hands-on involvement in managing these types of projects. In the late 1970s, I represented NSPE on a joint committee with the American Consulting Engineers Council and the American Society of Civil Engineers, working with the U.S. Environmental Protection Agency (EPA) to resolve numerous consulting engineering contract matters associated with the Agency's Construction Grants program. Through this cooperative effort, we were able to assist the Agency in developing high standards for evaluating the engineering design work performed under that program.

The role that the consulting engineer plays in wastewater treatment projects goes far beyond the design and development of plans and specifications for the facility. In many circumstances, it is also necessary to assist the client in managing the regulatory and financing issues associated with the project. This is particularly true for small and rural communities where in-house staff for handling such tasks is unavailable. In these instances, the professional engineer is responsible for obtaining permits from the relevant government agencies, developing the project's budgets, managing its expenses, and, most relevant to my remarks today, locating funding assistance. An equally important role is played by professional engineers in all levels of government who oversee the permitting process and ensure compliance with environmental and public health statutes. Because of these multiple roles in the wastewater treatment construction process, professional engineers have a perspective on the whole gamut of technical,

regulatory, and financial issues confronting small communities as they try to comply with public health and water quality needs and expectations.

So often the needs of our nation's rural communities are overshadowed by the pressing needs of the metropolitan areas in discussions of environmental infrastructure and water quality. Clearly, the funding challenges that rural communities face require particular examination. We commend this subcommittee for launching its review of the Clean Water Act with this series of hearings on such an important topic. I can assure you that the engineering profession is also prepared to assist our nation's small communities in meeting their wastewater treatment needs.

I will attempt to focus my remarks today on environmental infrastructure financing issues as they pertain to small communities. However, it is impossible to examine solutions to their problems without also discussing the overall challenges facing wastewater treatment funding. NSPE has had a long-standing interest in ensuring that the wastewater treatment funding programs are designed and operated efficiently and that they distribute the burden appropriately among the public and the various levels of government. My remarks today focus both on the improvements to existing wastewater treatment funding programs that are necessary to make them more suited to the particular needs of small communities, as well as on proposals for new alternative funding programs targeted to rural communities.

The U.S. has come a long way in restoring the nation's waters since the Clean Water Act was first passed in 1972. A great deal of this progress can be credited to the increase in the construction of municipal wastewater treatment facilities spurred by funding from the Act's infrastructure financing program. Under the Clean Water Act, the federal government has already appropriated \$60.4 billion to assist in wastewater facility construction. However, much work remains. The EPA estimated in its 1990 Needs Survey that 20-year design needs for wastewater construction would be approximately \$80.4 billion just to satisfy needs for the traditional eligibilities defined by the 1972 Act. EPA estimated that figure to rise to \$111.5 billion if new requirements amended into the Act in 1987 were factored in. While the needs estimates for small communities are less current, they are also staggering. EPA's 1988 Needs Survey identified the unmet needs of small communities alone to be at \$12 billion over a 20-year period, out of a total estimated need at that time of \$83.5 billion. Continued federal, state, and local government financial assistance is required if the nation's small communities are to meet these remaining construction needs.

#### **State Revolving Loan Fund Program**

We are a strong advocate for the State Revolving Loan Fund (SRF) program, viewing it as the best approach yet found for providing federal and state financial assistance to all local governments, including rural towns, as they seek to meet the water quality needs of their citizens. The SRF program appropriately provides for a transfer of primary responsibility for funding wastewater treatment back to the state and local level, while concurrently returning to those governments the flexibility to remedy the most harmful water quality problems in each of their jurisdictions. Through the SRF program, wastewater treatment services are being provided

more efficiently, more expeditiously, and at less expense to the federal treasury than was possible through the Construction Grants program.

We are pleased that the engineering community was one of the first to recognize the merits of a revolving loan assistance program for funding wastewater treatment construction. In 1983 and 1985 NSPE recommended to various congressional committees, including this subcommittee, that the federal Construction Grants program (Title II) of the Act be discontinued and replaced with a revolving loan assistance program. Congress reacted favorably to this proposal, and many of our suggestions were later incorporated into the Title VI program created in 1987. We are proud that NSPE was instrumental in providing much of the economic modeling and research which formed the basis of the SRF program.

While some have criticized the SRF program for failing to address the needs of small communities, the data we have reviewed indicate that this criticism is not entirely accurate. For example, in testimony before the Public Works and Transportation Subcommittee on Investigations and Oversight last year, EPA stated that small communities have received 33 percent of the funding appropriated under the SRF program. EPA also noted that these small communities had received only 24 percent of the federal funds under the construction grants program. Thus it is difficult to make a case that small communities have been disadvantaged by the switch from grants to loans. In fact, EPA pointed out that "when compared to the amount of flow at these facilities (less than 10 percent) and the population served (about 9 percent), the funding history suggests that small communities have received a relatively substantial portion of funding". It should also be noted that the percentage of SRF funds going to small communities should increase as many of the earlier projects that benefitted larger municipalities reach completion.

While the SRF program is fundamentally sound, we do, however, acknowledge that the program's current structure and operation does not give the states sufficient flexibility to meet the needs of every community. In particular, small communities with populations of less than 3,500 appear to be under-served by the SRF program. In some cases, this is a result of a legitimate inability of that small town to repay even the principal subsidy, much less the accrued interest. In those circumstances, grant mechanisms, possibly in conjunction with SRF funding, may be more appropriate. I will address that issue in more detail later. But, in many cases, rural community usage of the program is prohibitive because of burdensome statutory and regulatory requirements that hamstring the flexibility of the administering agencies to accommodate small community needs. The following statutory changes should be made to Title VI of the Clean Water Act so that the SRF program can better take into account the financial circumstances of small communities.

- Congress should consider extending the loan amortization periods for economically-distressed communities from the current 20 years to up to 30 years. We do not believe that extension of the amortization period should apply to all SRF loan recipients, but rather only to those meeting a carefully crafted definition of "economically distressed." The needy rural communities that are the focus of this hearing today would undoubtedly

fall into such a category. An extension of the amortization would assist local governments in maintaining user charges at more affordable levels.

- States should be allowed to disburse funds to economically-distressed communities in the form of zero interest loans to ease the burden of repayment. The states should also continue to work with existing federal and state grant-making authorities to couple a grant subsidy with an SRF loan as an additional relief for small communities.

However, we do not support suggestions to change the statute to permit economically-distressed communities to defer loan repayments until after three years following project completion rather than the current one year requirement. Deferring the commencement of repayment will only postpone the need for the community to charge adequate rates. The longer the rate increase is postponed, the more difficult it will be politically for public officials to link the rate increase to the infrastructure improvement. Postponement could lead to more defaults in later repaying loans rather than relieving the financial burden as intended.

Several other corrections are necessary to make to Title VI that, while applying to all loan recipients, would clearly have a positive impact on rural communities, as well. These include:

- eliminating the requirements of Section 602(b)(6) of the Clean Water Act, which subjects facilities receiving SRF-financed loans to the same requirements that are placed on Construction Grant recipients. While the Title II requirements may have been appropriate for the Construction Grants program, they are unduly burdensome and duplicative of state-managed efforts under the SRF program. For similar reasons, revisions to the Act should eliminate the applicability of the burdensome federal cross-cutting authorities that apply to the program. The states, having been given the primary responsibility for implementing the SRF program, should also be afforded the maximum flexibility to operate the programs as they best determine as long as they meet the goals of the Clean Water Act. The Title II and federal cross-cutting requirements hinder accessibility to the SRF program and discourage the use of SRF-financed loans. Small communities are particularly discouraged by these many administrative requirements, and as a result, forego applying for a state revolving loan;
- eliminating restrictions on the use of SRF funds to pay for the costs of land, easements, and rights of way associated with wastewater treatment facility construction. This is particularly important for rural communities, which are often required to make what to them are major land purchases to install collector/interceptor sewage systems.

No discussion of the limitations on financing of small community projects under the SRF program would be complete without a thorough discussion of the future authorization and appropriation levels for the program overall. If the SRF program is underfunded, the rural communities that could be seeking SRF loan funds will clearly suffer, and may be the first to be denied funding. If the Congress and the Administration hope to provide greater federal financial assistance to environmental infrastructure in rural communities, the overall funding

needs of the SRF will have to be met.

As you are well aware, legislative authority for the SRF program expires in FY 1994. As I have mentioned earlier, however, fulfilling the construction needs of both large and small communities to come into compliance with the requirements of the Clean Water Act is far from complete. In part, this can be attributed to previous appropriations levels for the Construction Grants and SRF programs that failed to keep pace with the full \$18 billion that was authorized for the program. Because the programs were not funded according to the schedule set out by Congress, there remains a backlog of ready-to-go projects. In addition, projects that would have been completed had there been full appropriations early on are still in the construction phase, thus tying up funds that have been loaned to those projects from recirculation.

In addition, EPA conveys the appropriations to the states by letters of credit in lieu of the originally-contemplated cash payments, which unfortunately restricts the ability of the states to leverage their federal capitalization grants. When the statute was passed by Congress, we felt, and still feel, that it would allow EPA to disburse funds to the states on a fixed payment program in advance of the state's payments to grantees, that is, on a fixed payment program. These federal payments, along with the repayment of loans made from the state SRF loan funds, could then be pledged for debt service for state-issued bonds, thereby "leveraging" the effects of the federal contributions. The dollars to be generated from this leveraging was an essential element for generating the total funding necessary to meet the goals of the original program. But the federal capitalization funds that have been appropriated have not been provided to the states in advance of their commitment of the funds. As a result, the federal government has missed the opportunity to multiply the effect of its initial investment. If the federal government had distributed the capitalization grant in a form which would have permitted its leveraging, the states could have generated greater levels of capital much sooner with their revolving funds and accelerated the construction of these much-needed pollution abatement facilities. Correspondingly, small communities and other eligible loan recipients have had to postpone wastewater treatment improvements because of a lack of available capital. We urge the Subcommittee to use the opportunity before you in Clean Water Act reauthorization to direct EPA and the Department of the Treasury to implement the original intent of the law -- the payment of federal capitalization grants as cash outlays on a negotiated schedule.

Furthermore, impairments to water quality for which solutions were not originally contemplated in the 1972 Act, but have now become national priorities (including risks associated with combined sewer overflows and stormwater runoff) have escalated the costs for wastewater treatment construction far beyond what was originally envisioned. Thus, even higher appropriations levels are necessary in the immediate future.

Because the revolving loan fund program is the primary vehicle for providing federal funding assistance for municipal wastewater infrastructure construction, it is imperative that Congress reauthorize the program and provide full appropriations. A minimum of \$2 billion annually should be authorized and appropriated in order to meet the original eligibilities of the Act. The new expectations placed on the states and localities in the 1987 amendments and possible new

mandates under consideration will require the Congress to increase authorizations and appropriations.

We stress that full federal capitalization of a properly implemented SRF program represents a commitment to jobs creation and long-term economic development in rural areas and cities that is well worth the investment. It is also a commitment to long-term deficit reduction for, if adequately capitalized, the state's revolving funds will eventually be able to function independent of federal capitalizations. But without full federal appropriations early on, the SRF program will not accomplish nearly as much as was originally envisioned. We strongly urge the Subcommittee to continue to influence the Appropriations Committee to fully appropriate the current and future authorization levels that you will set for this crucial program.

I also want to address one additional SRF financing issue particular to rural communities that the Subcommittee may want to consider during this reauthorization process. Legislation was introduced last year that would have mandated that a percentage of each state's federal capitalization grant be set aside exclusively for rural community environmental assistance projects. While we recognize that the intention of such a provision is to ensure that the benefits of the SRF capitalization are equitably distributed among rural and urban communities, we are concerned that such a requirement could restrict the ability of the states to address the most pressing water quality problems of their particular state. Certainly, those in New Jersey are different from those in West Virginia, for example. Because the infrastructure needs of small communities vary among the states, a mandatory set-aside may be overly restrictive. If such a set-aside is to be made mandatory in all states, then supplemental federal funding should be appropriated specifically to fund that set-aside above the state's regular SRF capitalization grant. Also, if such a set-aside was mandatory, the state matching requirement should be reduced for that portion of funding. However, we would not oppose a statutory change that would permit the state to set aside a percentage of their regular SRF capitalization specifically for rural and/or economically-distressed communities if they so elected. A voluntary set-aside would not restrict state flexibility. However, if the set-aside is voluntary, the state matching requirement should not be lowered since the federal government would not be supplementing the regular capitalization grant with any additional funding.

### **Grants Programs**

We believe that the many adjustments to the State Revolving Loan Fund program that we have recommended above will increase the attractiveness of the loan program to rural communities and increase their ability to obtain an SRF loan. Nevertheless, for some small and rural communities it is clear that any loan payback provision is prohibitive. Recognizing that a grants program may be the only source of funding for the most disadvantaged of the small communities, NSPE urges Congress and the Administration to enhance existing federal programs that provide grant and loan assistance to small and economically-distressed communities in agencies such as the Rural Development Administration (formerly part of the Farmers Home Administration), Economic Development Administration, and the Community Development Block Grant program. These agencies have a great deal of experience addressing the special

needs of small and rural communities and are capable of integrating wastewater treatment funding with other economic development projects.

We urge that the Congress and the Administration direct greater attention to these programs, both in boosting the technical capabilities of regional staff who administer these programs, and in providing higher appropriations so that they become truly useful funding sources for the many rural and economically-distressed areas that need grant assistance. While we realize that this Committee does not have primary jurisdiction over these programs, we hope that you will cooperate with the other relevant committees to ensure full funding of these programs.

Because of the availability of the Rural Development Administration and other federal programs, as well as state grant programs that have been established to fill any gaps left by the conclusion of the EPA Construction Grants program, we believe that a renewal of the former Construction Grants program or the establishment of a comparable program within the U.S. Army Corps of Engineers is unnecessary and, in fact, counter-productive to the goals of the 1987 Amendments to the Act. Reauthorization of a construction grant program sends an entirely inappropriate message to states and localities that the federal treasury is again "open for business" since there are not sufficient federal resources to fully fund environmental infrastructure programs in all of the potentially eligible communities. Such a return is also inconsistent with efforts by the Administration and Congress to reshape governmental programs so that they operate more efficiently and flexibly. For ten years NSPE has stated its opposition to a grant program in the belief that it created disincentives for states and localities to provide their own funding for wastewater treatment, delayed the construction of facilities, and created an inefficient funding stream by imposing costly administrative burdens which inevitably accompany federal funds.

#### **Private-Public Partnerships**

We do not want to overlook an additional mechanism for providing wastewater treatment facilities to rural communities that should continue to be explored -- private sector operation or ownership of such systems. Given the limited public funds available for environmental infrastructure and the intense competition for these funds, it seems prudent to encourage the private sector to fund such projects if they are so inclined. The private sector, including some engineering firms, is already directly involved in treatment plant operation and ownership. In many cases a low interest loan, or in the case of small communities, a partial grant, may make privatization financially feasible. Our current NAFTA partner to the South, Mexico, is heavily privatizing utilities to take such expenses off-budget. A striking example is the entire water system of Mexico City. We support legislative and regulatory changes that would remove obstacles to private sector participation in providing water and wastewater treatment or water supply services to rural areas, as well as to large communities. We encourage this Subcommittee to use the reauthorization process to make appropriate changes to the Clean Water Act.

### **Revolving Loan Assistance Funds for Potable Water Supply and for Solid Waste Disposal**

While this topic does not specifically address the subject of today's hearing, we believe the issue must be raised because of the potential interconnection between existing wastewater financing programs and proposed companion programs for meeting other environmental infrastructure priorities. This issue has particular relevance to today's hearing because proposals have been introduced previously that would have established rural environmental infrastructure accounts serving wastewater, drinking water, and solid waste disposal needs concurrently.

As is the case for wastewater treatment infrastructure, small communities have been particularly burdened by that lack of adequate funding for potable water supply systems and municipal solid waste disposal facilities. The case for establishing a revolving loan program for potable water systems is particularly strong. EPA's Office of Drinking Water estimates that \$1.2 billion annually, or 69 percent of the total compliance costs for new drinking water regulations, will fall upon small community water systems. If the federal government is to set increasingly rigorous demands for drinking water, a federally-supported state revolving loan assistance fund should be established. We also support the establishment of a revolving loan fund for municipal solid waste disposal facility construction. Such programs should be modeled on the SRF wastewater program as it was originally conceived, but should incorporate the modifications we have also recommended earlier in this statement for the wastewater loan program. It is important that in designing any future revolving loan funds, we do not repeat the same mistakes.

Before establishing revolving loan funds for environmental infrastructure projects other than wastewater treatment facilities, we caution the Congress to carefully consider whether they are willing to commit the financial resources over the long term to such programs. While the SRF program certainly offers a potential model for meeting other infrastructure needs, it will only succeed if adequate funds are provided. It would be particularly unfair to state and local governments and to the public to promise new federal funds for such environmental infrastructure, only to weaken the programs with inadequate funding in the future. Furthermore, the establishment of new revolving loan programs should not decrease the amount of funds available for capitalizing the wastewater SRFs. Instead, any new SRF program should be funded through separate appropriations.

In this regard, it is essential that the accounts for the various environmental infrastructure revolving funds be kept separate. Traditionally, local governments have been more successful at obtaining community approval of increased water rates than they have for wastewater treatment or solid waste disposal fees. If the accounts were combined, the temptations would be great for local governments to increase water rates to cover the costs of wastewater treatment and solid waste disposal. It is also important to keep the accounts separate so that the public can see the relationship between the service provided and its cost.

While we argue that the accounts should be kept separate, this would not preclude the states from administering the funds through a central environmental infrastructure financing authority. On the contrary, we would encourage such management as it would eliminate duplicative

administrative and organizational structures. Furthermore, centralized management would provide local governments "one-stop" access to environmental infrastructure funding assistance options. This efficiency would be particularly valuable to rural communities which are expected to be primary beneficiaries of the proposed revolving funds for drinking water and solid waste disposal.

The National Society of Professional Engineers appreciates the opportunity to present our viewpoints to you on the important issues facing the nation regarding wastewater treatment infrastructure, and in particular, the impacts of national environmental infrastructure policies on the nation's small communities. We commend you for including the engineering profession in this discussion and for listening to our recommendations. We look forward to continuing to provide assistance to you as you craft sound public policy on water quality issues.

ROBERT A. RAPOZA ASSOCIATES

Statement  
of

Laura Paradise, Policy Associate,  
Rapoza Associates

before

The Subcommittee on Water Resources and Environment  
Committee on Public Works and Transportation  
U.S. House of Representatives

February 23, 1993

## Introduction

Mr. Chairman, my name is Laura Paradise and I work as a Policy Associate with Rapoza Associates, a consulting firm that conducts policy research and provides legislative support on rural and low-income community development issues. For the past five years, we have collaborated with the Center for Community Change and the Rural Community Assistance Programs on research activities that address rural poverty needs. We have developed numerous reports and conducted briefings on rural drinking water and wastewater concerns, including the impact of recent changes in Clean Water Act funding, thanks to support from The Aspen Institute and The Ford Foundation.

It is particularly a pleasure to appear before this Committee to discuss the wastewater facility needs of rural communities and small towns. For too long, there has been inattention to rural wastewater needs. Historically, rural wastewater projects have not been a Clean Water Act funding priority. As a result, rural areas received only a small share of EPA Construction Grants assistance, and they are not likely to obtain an increasing share of funding from the new state revolving loan funds. As part of this testimony, I will first describe the wastewater problems of rural communities and then provide some recommendations to the Committee on measures that can be taken to address these needs.

It will become evident as I describe our research findings that, unless resources are targeted to rural areas, substandard conditions will persist. All communities, rural and urban, require adequate sewage treatment facilities to protect public health. Further, communities have limited prospects for growth and development if they are not able to provide basic environmental infrastructure services. Rural America will continue to suffer from economic decline and outmigration unless its infrastructure needs are addressed.

But before I begin, I would request that the Executive Summary from Through the Revolving Door: An Analysis of Rural Wastewater Facility Financing be included in the record. This report is the most comprehensive analysis of the impact of changes in Clean Water Act financing on rural communities, and was developed in consultation with regional, state and federal agency representatives.

### Rural Wastewater Facility Needs

Today, 71 percent of the US population is served by municipal wastewater treatment facilities. A majority of the population is served by a relatively small share of all facilities.

Ninety percent of all facilities are small by definition, and serve populations of fewer than 10,000.

Every two years, EPA conducts a needs survey of wastewater projects necessary to meet federal Clean Water Act compliance requirements. The survey provides information on the backlog of compliance needs and cost estimates by project type.

The 1988 EPA Needs Survey showed that \$63 billion is required to bring facilities nationwide into compliance with current federal standards. A quarter of the national total -- \$13.7 billion -- represents the backlog to address unmet rural needs. Wastewater treatment facility construction or expansion projects make up the largest share of the rural backlog in terms of overall cost.

Nearly three fourths of all identified projects in the Survey address facility needs of rural areas. Rural wastewater facility projects are required to address the following: 1) the greatest national need for secondary treatment facilities to meet Clean Water Act standards; 2) the highest incidence of noncompliance with wastewater discharge permit standards; and 3) the largest share of all proposed new construction to develop sewer collection and treatment facilities where none currently exist.

What do national figures tell us about rural facility needs?

The data show that, even where rural areas are served by municipal sewage collection and treatment facilities, these facilities are not providing adequate sewage treatment. Moreover, estimates show that numerous rural households continue to rely on substandard individual systems that must be replaced by municipal sewage collection and treatment facilities.

1. Rural facilities account for the greatest national need for secondary treatment facilities to meet Clean Water Act standards. One in six facilities in rural poor counties are discharging either raw sewage or sewage treated at standards below those required for secondary treatment. More than 16 percent, twice the national rate, of facilities in rural poor counties are not providing secondary treatment.

2. Rural treatment facilities exhibit the highest incidence of noncompliance with wastewater discharge permit standards. A quarter of currently operating wastewater treatment facilities located in rural areas are violating their discharge permits. Facilities serving poverty-level residents in rural areas have the worst compliance record, with 30 percent discharging sewage effluent into surface waters at a higher level of contamination than their permits allow.

3. Perhaps most significant, numerous rural households continue to be served by substandard waste disposal facilities, including outhouses, cesspools and "straight" pipes that discharge untreated waste into neighboring streams. EPA data show that rural community facility needs account for 90 percent of all proposed new construction -- building on a site where no municipal facility currently exists -- activity nationwide.

EPA data focuses on regulation-related needs, but offers little additional information about a community's ability to pay or management capability. Because rural Americans are more likely to be poor than other citizens, rural systems may be severely limited in their ability to finance federally-required system improvements. In fact, our research shows that rural systems may exhibit a greater rate of noncompliance than small systems because of the level of poverty among rural residents. Therefore, income considerations must be a component of rural wastewater facility compliance improvement strategies.

#### **Rural Noncompliance is Tied to Financial Constraints**

In 1990, we surveyed state revolving loan fund staff throughout the country to learn more about rural wastewater facility needs. Our research shows that the financial and management characteristics of rural communities contribute to the high rate of noncompliance among rural facilities. In fact, the financial limitations of rural communities and small systems create a vicious cycle by reducing these communities' ability to finance required capital improvements or generate revenues needed to operate and maintain facilities.

Thirty-two states reported that wastewater facility compliance problems are prevalent in communities whose residents who can least afford to finance required improvements. Limited revenue generating capability, poor financial management practices and little or no capital planning contribute to ongoing facility problems.

Our survey found that:

1. Wastewater facility compliance problems are prevalent among facilities serving poor residents. Noncomplying facilities typically serve a small, often rural, low-income customer base with limited debt repayment ability.

2. Facility noncompliance is often caused by poor operation and maintenance. User charges are often too low to generate sufficient revenues to cover the costs of facility maintenance, equipment repair and replacement. And, many rural facilities do not employ trained operators.

3. Limited financial capability presents an impediment to addressing facility needs. Rural communities that require new municipal facilities cannot develop affordable projects because they cannot achieve economies of scale or spread project costs. High per-capita costs make projects unaffordable for many rural, lower income residents.

4. Households served by small and rural facilities often pay a larger share of their income for wastewater services than do residents served by metropolitan facilities. Moreover, these households are predicted to experience the greatest increases in annual costs to comply with emerging environmental requirements. It is possible that there will be an increasing number of service shut-offs among rural low-income households because user charges are unaffordable.

#### Clean Water Act Funding

Our research focused primarily on the impact of the Clean Water Act amendments of 1987 which authorized the termination of the EPA Construction Grants program and the creation of State Revolving Funds (SRFs) to replace Construction Grants as a permanent source of wastewater treatment facility financing.

The Construction Grants program for wastewater treatment projects, authorized under the 1972 Clean Water Act amendments, ranks as the second largest domestic public works spending program. Between 1972 and 1990, more than \$55 billion in Construction Grants assistance was invested in municipal wastewater treatment facilities benefitting more than 57 million Americans.

EPA and Construction Grants staff agree that Clean Water Act priorities directed funds to larger municipalities where greater water quality and public health impacts could be achieved. The cost and complexity of preliminary requirements also benefitted communities with greater organizational skills and technical

capability and, to some extent, weeded out smaller, often rural, communities with less technical expertise.

Many small and rural communities have only recently achieved Construction Grant priority funding status, given competition from larger municipalities and time delays associated with federal requirements. Small communities, defined by EPA as communities with fewer than 3,500 persons, received only 11.71 percent of all Construction Grants assistance, totaling \$5.272 billion. Yet, communities of this size account for more than 70 percent of all U.S. municipalities.

Since Fiscal 1990, SRFs are the primary source of wastewater treatment funding available to help public entities comply with federal standards. SRFs are not required to target rural wastewater needs or provide increased subsidies to low-income communities. The extent to which such needs are effectively targeted depends on state program priorities. SRF loans may be issued for a maximum 20-year term and may not be offered as grants.

#### **National State Revolving Fund Survey**

We surveyed state revolving fund staff nationwide to evaluate if the SRF was an effective finance mechanism to address rural facility needs. Although states have increased flexibility in setting SRF funding priorities, establishing set-asides, and offering loan subsidies, they are required to ensure that the long-term viability of the fund is protected as a permanent source of financing when the federal capitalization period ends in Fiscal 1994.

Many states reported that they are issuing a majority of loan monies to larger, more creditworthy municipalities in order to meet their financial management obligations, while protecting the corpus of the fund. Rural and lower income communities are often considered greater credit risks because they lack bond ratings and have limited revenue-generating capability. In fact, our findings show that greater financial management scrutiny in the SRFs highlights the dilemma faced by many rural communities: financial and management limitations restrict their ability to gain access to funding.

State survey response confirms the importance of addressing rural financial and management constraints as part of an effective rural wastewater facility assistance strategy. States overwhelmingly agreed that affordability is the most critical factor in rural low-income facility financing. Of 42 states responding to the survey:

- 23 states consider the lack of grant funds to be the greatest obstacle to addressing rural low-income facility needs; and

- 19 states report that excessive project costs, based on dollar per household cost, is the largest impediment to financing rural facility projects with SRF loans.

In short, the SRF by itself is not a viable financing option for many rural and rural poor communities.

We also analyzed SRF loan portfolios from 12 states to determine if rural, lower income communities have been able to obtain loans. Overall, SRFs surveyed were able to finance projects that served small, rural moderate-income communities. Lower-income borrowing occurred only in cases where significant interest-rate subsidies or supplemental grants were offered to reduce user charges to an affordable level.

SRFs are less able to address the needs of lower-income and very small communities that have limited debt-repayment ability. Even zero percent interest loans will not result in affordable user charges when projects serve such populations.

SRF data shows that measures must be taken to address financial capability if lower-income communities are to borrow from the SRF. Interest-rate subsidies and supplemental grants are needed to reduce per-household costs to an affordable level. The need for supplemental grants is most pronounced in new sewer service projects that serve small, rural populations and lower-income households. High per-capita costs associated with new sewer service projects make 100 percent debt financing an untenable option for many rural, lower income households.

Finally, SRF data shows that rural communities require technical assistance both to gain access to SRF loan financing and to address operation and management needs. Many rural communities do not have the technical capability to meet preliminary loan requirements. Others require assistance to establish sound budget management practices, revise user fee systems and improve facility operations.

Attention both to capital and technical assistance needs is warranted to ensure that rural wastewater facilities meet federal Clean Water Act standards.

## Recommendations

In closing, I would like to offer several recommendations to more effectively target rural wastewater facility needs within the Clean Water Act.

As the financial and management capability of SRF applicants become more important criteria in evaluating projects, it is necessary to better identify financing and management needs. The national Needs Survey should include detailed data on financial and management needs so that analysts may assess facilities' ability to maintain compliance.

Based on new Needs Survey data, technical assistance programs should be implemented to help communities improve financial capability and facility management.

A separate fund should be established to provide funding subsidies for rural wastewater facility projects based on economic need and other affordability criteria. In order to meet affordability criteria and address rural poor facility needs, additional funds and extended federal capitalization should be authorized to provide loan interest subsidies, loans at terms of up to 40 years, and supplemental grants for small, rural, low income communities.

Technical assistance should be provided to rural communities, to evaluate the financial viability of developing and maintaining new sewer facilities. In addition, assistance should be provided to evaluate facility management options that will result in the development of viable facilities, including satellite management, regionalization or implementation of septage management districts.

That concludes my statement. Mr. Chairman, Rapoza Associates and the Center for Community Change and Rural Community Assistance Programs, appreciate this opportunity to discuss rural wastewater facility needs. I would be happy to answer any questions which you or other members of the Committee may have.

# THROUGH THE REVOLVING DOOR

*An Analysis  
of Rural  
Wastewater Facility  
Financing*

*by the*  
Center for Community Change

*Project Team:*

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## EXECUTIVE SUMMARY

### Why Examine Rural Wastewater Facility Needs?

WATER QUALITY is a matter of increasing concern in cities and towns across the United States. Federal and state regulators report that drinking water and sewage treatment facilities serving small, mostly rural populations currently have the highest rates of noncompliance with federal environmental standards. In 1988, more than 90 percent of all small water systems were in violation of Safe Drinking Water Act standards, and the noncompliance problem is expected to become even more severe as increasingly stringent environmental standards are implemented.

Small systems typically need financial and management assistance to upgrade and maintain systems to federal standards. A system with a small customer base has limited revenue-generating capability, cannot achieve economies of scale, and cannot spread costs effectively. Regulators and financial analysts predict that households served by small systems face extraordinarily large increases in water and sewer charges associated with evolving environmental standards. There is clearly a need for coordinated strategies to address the "small system problem."

By definition, most of the water and sewer systems in rural America *are* small systems. Their noncompliance problems are compounded by the socioeconomic characteristics of rural areas. In many parts of the United States, rural infrastructures have never been adequate and have been deteriorating even more severely than their urban counterparts. The need to modernize existing water/sewer systems — and, at even greater cost, to create new systems where none now exist — is a challenge beyond the capabilities of many small rural communities. And because rural households are, on the average, more likely to be poor than households served by urban-suburban systems, rural systems are at a particular disadvantage in financing federally required system improvements. Their customers are poor; their

communities typically have a limited tax base and a low or nonexistent credit rating. The noncompliance problems of these systems, however, have been inadequately documented; relatively little national data is available on the water and sewer needs of rural communities — which makes it all the more difficult to address those needs.

This report was undertaken as part of an effort to clarify the wastewater facility needs of rural and rural poor communities and to assess the outlook for addressing these needs in light of changing environmental regulations. Our goals are twofold: 1) to examine the current status of rural wastewater treatment systems; and 2) to determine whether rural communities will have access to affordable funding to address their environmental infrastructure needs.

### The Impact of the Water Quality Act of 1987

The primary focus of the report is on the impact of the Water Quality Act of 1987, which authorized the termination of the Environmental Protection Agency's Construction Grants program and provided a process for establishing state revolving funds (SRFs) to replace EPA Construction Grants as a permanent source of wastewater treatment facility financing. Unlike the Construction Grants program, which provided grants directly to local entities, SRFs are loan programs in which the initial capital is provided by federal "seed money" augmented by state funds. States make loans to local entities, and as the loans are repaid, the SRF is replenished. Because of this structure, SRFs require greater scrutiny of the financial and managerial capabilities of potential borrowers than was true of the Construction Grants program. Given the limitations of many rural communities, it is important for policymakers to know whether this major change in financing wastewater treatment needs will be successful — and, to the extent that SRFs fall short of meeting the need, it is equally important to identify necessary changes.

The Water Quality Act established a schedule for phasing-out the Construction Grants program by Fiscal Year 1990 and provided guidelines for establishing and operating federally capitalized SRFs. The Act requires states to comply with federal requirements when issuing loans obtained as a direct result of federal capitalization grants. States must also ensure that the long-term viability of the revolving fund is protected as a permanent source of financing after the federal capitalization period ends in FY 1994. Further, states will continue to be responsible for ensuring that publicly owned wastewater treatment facilities meet federal standards *with or without federal funds*. The transition to SRFs is perhaps the most significant change wrought

by the Water Quality Act, because it marks the end of a 20-year period of federal capital grant investment in municipal wastewater treatment facilities.

The Water Quality Act does not require state revolving funds to target rural wastewater needs or to provide increased subsidies to low-income communities. The extent to which such needs are effectively targeted thus depends on state program priorities. Accordingly, a nationwide survey of SRFs was conducted for this report to identify actions that states are taking to address rural wastewater facility needs.

*Through the Revolving Door* provides basic data on rural wastewater facility needs in order to facilitate an evaluation of the match between needs and program priorities. The report then assesses the impact of changing wastewater facility funding policy on the distribution of funding in federally capitalized SRFs and in the other two principal sources of funding: Farmers Home Administration (FmHA) Water and Waste Disposal Loans and Grants and state bond banks. The report examines the accessibility and affordability of all of these funding resources to determine whether there is a match between rural capacity and funding program design, and offers four state case studies — Arizona, Minnesota, Washington, and West Virginia — to assess this question in varying contexts. The report also looks at the possible advantages of enhancing access to credit by creating a federally sponsored bond marketing authority specifically to underwrite rural water and sewer projects. Finally, *Through the Revolving Door* offers a number of policy recommendations aimed at helping rural poor communities to more effectively address their wastewater facility financing requirements.

### The Environmental Regulatory Context

Since the establishment of the U.S. Environmental Protection Agency in 1970, federal environmental regulation has evolved to address emerging public health and environmental quality problems in all sectors of government, business and industry. Federal regulations currently govern a wide range of services provided by local governments including sewage treatment, drinking water, hazardous waste disposal and solid waste management.

Early federal environmental regulation focused primarily on controlling major sources of pollution such as industry (e.g., automobile emissions standards) and large cities (e.g., basic sewage treatment requirements). The drinking water and sewage treatment problems of rural communities were not a regulatory priority, and relatively little federal funding was obligated to help rural communities comply with federal standards.

More recently, the scope of environmental regulation has broadened to include communities whether large or small, urban or rural. Persistent, much-publicized problems — such as toxic waste dumps and groundwater contamination — have reinforced public support for better protection and tougher standards. The cost of implementing and complying with environmental standards has escalated steadily as the scope of environmental regulation has grown. At the same time, however, the federal role in financing environmental services has been on the decline, particularly since 1981, and states and local governments are increasingly responsible for financing environmental compliance. Whether they can muster the necessary resources — let alone target them fairly and effectively — is unclear. Paying for environmental programs and environmental services is one of the major challenges of the 1990s.

EPA's Office of Municipal Pollution Control, which enforces federal Clean Water Act regulations, has estimated that it will cost \$63 billion to bring the nation's wastewater treatment facilities up to federal standards. This estimate, it should be noted, is based on serving the *current* U.S. population, and not on projections of future needs. Currently operating facilities serve 71 percent of the U.S. population; when these facilities have been upgraded, 248 million people — 87 percent of the population — will be served by up-to-code systems.

EPA's Office of Drinking Water, which enforces the drinking water standards of the federal Safe Drinking Water Act, estimates that an additional \$7 billion will be needed nationwide annually to cover total capital costs for upgrading treatment to comply with the contaminant requirements incorporated in the Act's 1986 amendments, and an additional \$1.7 billion annually will be needed to cover system monitoring and reporting requirements which were also part of the amendments.

These estimates may be conservative. The General Accounting Office uses \$83.5 billion as a ballpark estimate of the cost of financing the nation's current wastewater treatment needs.<sup>1</sup> Estimating is something of an art, given the scope of the problem, the rapidly escalating cost of public works construction, and the fact that few federal laws have either required EPA to assess the costs of compliance or provided for adequate data collection.

In any case, the challenge of financing the nation's wastewater treatment needs must be viewed in a broader context: the entire panorama of unmet environmental needs — from ozone to ocean. EPA has calculated that

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<sup>1</sup> U.S. General Accounting Office, *Water Pollution: States' Progress in Developing State Revolving Loan Fund Programs* (GAO/RCED-91-87), Washington, D.C., March 1991.

the public and private sectors will need an additional \$61 billion *each year* to meet current and new environmental mandates between now and the year 2000.<sup>2</sup> Where will the money come from? That question haunts the federal and state regulators and financial analysts who have been exploring options for financing the nation's wastewater treatment needs.

### Finding Funding for Regulatory Compliance

In the 1970s, the federal government assumed a large share of the costs for regulatory enforcement and environmental services. Since 1972, Congress has authorized funding for municipal sewage treatment facilities nationwide under the Clean Water Act. The Safe Drinking Water Act, which sets forth regulatory standards for public drinking water systems, has never included funding authorizations to help systems meet compliance requirements. The Consolidated Farm and Rural Development Act of 1961 and subsequent amendments have enabled the Farmers Home Administration to make a significant financial investment in low-interest loans and grants for both drinking water and sewage disposal projects serving rural low-income communities, particularly since 1972. However, FmHA funding programs were established simply to help rural and rural poor communities obtain affordable financing for needed public works projects; FmHA's programs were not intended or designed to address regulation-driven needs.

Since 1981, the federal government has increasingly delegated enforcement and funding responsibility to state governments. They, in turn, have relied heavily on the municipal bond market, user fees, and tax assessments. Individual households have thus become increasingly responsible for — and burdened by — paying the cost of financing capital construction and facility operation and maintenance. Barring a major shift in federal-state-local relationships, this trend is expected to accelerate throughout the 1990s.

The EPA Construction Grants program for wastewater treatment facility funding, authorized under the 1972 Clean Water Act amendments, ranks as the second largest domestic public works spending program. Between 1972 and 1990, more than \$55 billion in Construction Grants assistance was invested in municipal wastewater treatment facilities serving more than 57 million Americans.<sup>3</sup> Construction Grants funding priorities targeted larger municipalities because of high population density, large

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<sup>2</sup> U.S. Environmental Protection Agency, *A Preliminary Analysis of the Public Costs of Environmental Protection: 1981 - 2000, 1990*.

<sup>3</sup> *EPA Journal*, December 1987.

volume of wastewater flow, and the resulting impact of improved facilities on surface water quality.

Under the Water Quality Act of 1987, federally capitalized state revolving funds are now replacing Construction Grants as the primary source of wastewater treatment funding available to help public entities comply with federal standards. Federal requirements apply to SRF loan funds that have been obtained as a direct result of federal capitalization. SRF loans may be issued for a maximum 20-year term and cannot be offered as grants.

Overall, debt financing has become the predominant financing mechanism for water and sewer projects. Local governments may currently borrow to finance capital projects from SRFs, state bond banks and financing authorities. Some state and federal programs continue to offer grants, but program guidelines generally require applicants to borrow to cover some share of project costs. The FmHA Water and Waste Disposal Loan and Grant is the largest funding program that offers funding subsidies for projects serving rural and rural poor communities. FmHA offers grants to help lower income communities reduce user charges to affordable levels. Applicants must meet debt service guidelines and demonstrate economic need before grants will be awarded for projects.<sup>4</sup>

As noted, Clean Water Act priorities directed funds mainly to larger municipalities where greater water quality and public health impacts could be achieved by constructing and upgrading wastewater treatment plants. The cost and complexity of meeting preliminary Construction Grants requirements also tended to favor communities with greater organizational skills and technical capabilities — and, by the same token, tended to freeze out smaller, often rural, communities with less technical expertise.

Because of the competition from larger municipalities and the time delays involved in meeting federal requirements, many small and rural communities have only recently achieved Construction Grant priority funding status. Large metropolitan areas with populations greater than 500,000 received nearly 25 percent of all Construction Grants funding — some \$10.926 billion — between FY 1973 and FY 1990. Regardless of their importance, communities of this size represent only .2 percent of all municipalities nationwide. During the same time period, small communities (defined by

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<sup>4</sup> It should be noted that FmHA may obligate grants totalling up to 75 percent of total project costs to applicants with incomes below the national poverty level for projects that address environmental violations and public health hazards. FmHA has awarded an increasing share of grant funds, nearly 70 percent of each community's FmHA contributions in FY 1988, to low-income communities that received grant funding from FmHA.

EPA as those with populations below 3,500) received 11.7 percent of all Construction Grants assistance, totalling \$5.272 billion. Yet communities of this size account for more than 70 percent of all U.S. municipalities — and for a large share of the facility needs of many states. In Pennsylvania, for example, small communities account for the majority of the state's facility needs, estimated at \$3.2 billion in 1988; but large municipalities, especially Philadelphia, received the majority of federal assistance.

### How Regulators Identify Wastewater Facility Needs

The 1972 Clean Water Act required EPA to conduct a national survey of municipal treatment works every two years to assess the capital investment needed to build or improve municipal treatment facilities that meet federal standards. EPA Needs Survey data is submitted to Congress and serves as the basis for determining the allotment of funds for the Construction Grants program. The data has also allowed Congress to evaluate the impact of federal wastewater facility funding on facility compliance status. The 1988 EPA Needs Survey does not reflect changes in funding eligibilities or enforcement requirements set forth in the 1987 Water Quality Act.

The biennial Needs Survey provides the most detailed information available on the compliance status of the nation's municipal wastewater treatment facilities. EPA has established documentation criteria for cost estimates and facility needs to ensure that identified needs are accurate and address compliance requirements.

### National Wastewater Needs Data

1988 EPA Needs Survey data and interviews with SRF staff nationwide provide the basis for rural and rural poor wastewater facility needs data presented in this report. However, EPA Needs Survey data contains only *documented* facility needs that address regulatory compliance. SRF staff nationwide agree that rural needs are underrepresented in national needs data because rural communities often lack sufficient needs documentation. For example, 39 states submitted separate facility needs estimates to supplement the 1988 EPA Needs Survey showing that there is a critical need to develop new municipal wastewater treatment facilities in rural areas that are currently served by individual on-site systems. Separate needs estimates did not, however, meet EPA documentation criteria.

EPA's survey focuses on regulation-related needs, but offers little additional information about the applicant's ability-to-pay or management

capability. And the only information about the facility service population contained in national data is the number of residents that are or will be served by treatment and collection facilities. We found that *EPA's Needs Survey as presently structured does not allow analysts to determine whether communities have the financial or management capacity to address identified facility needs and achieve compliance.*

### **Wastewater Facility Needs in Rural Poor Communities**

According to the 1988 EPA Needs Survey, \$63 billion is required to bring existing and planned facilities nationwide into compliance with current federal standards. There will be 24,141 facilities nationwide when all documented facility needs are met.

*EPA data show that 75 percent of all documented facility needs are in rural communities of fewer than 10,000 persons. The estimated cost of addressing rural community needs is \$13 billion — almost a fourth of the national needs estimate. But because EPA data provide the basis for state SRF allocations, states with significant rural needs will receive considerably less federal SRF funding than states with higher-cost urban projects.*

We found that wastewater facilities in rural and rural poor counties account for: 1) most of the backlog of secondary treatment facilities needed to meet Clean Water Act standards; 2) the highest incidence of noncompliance with wastewater discharge permit standards; and 3) the largest share of all noncompliance situations requiring new construction and treatment facilities where none now exist.

There is a disproportionately high need for physical and operational wastewater facility improvements in rural poor counties in the South. The region has 36 percent of all facilities in rural poor counties nationwide but accounts for 44 percent of all documented noncompliance among such facilities. Further, the need for new collector sewers — indicative of the need for new sewer systems — is greatest in the South, where such needs account for 35 percent of the region's total rural poor facility needs.

SRF staff confirm that limited financial capacity and poor operation and maintenance contribute to the high incidence of noncompliance among facilities serving rural poor communities. *This same problem — inadequate financial capability — creates an impediment to addressing rural poor facility needs. SRF staff report that many rural poor communities that require new municipal facilities cannot develop affordable projects because they cannot achieve economies of scale or spread project costs effectively.*

## Transition to State Revolving Funds

Based on a nationwide survey of SRFs, we found that *rural poor wastewater facility needs will not be adequately addressed in state revolving fund programs*. SRF staff report that rural poor facility projects that were not addressed during the Construction Grants program — specifically new sewer collector and treatment facility projects — cannot be financed with 100-percent loans, regardless of interest-rate subsidies.

Federal SRF requirements restrict states' ability to target rural poor facility needs by offering more accessible or affordable funding. Preliminary loan requirements present an obstacle to many rural communities that lack the capability to finance technical studies, and SRF loan priorities reward applicants that are ready to proceed to construction. This acts as a further barrier to rural poor communities. Communities with greater financial resources are more likely to be able to take advantage of the rural set-asides available in 16 states (averaging 10 percent of total SRF funds in those states).

States are seeking to accelerate compliance with federal requirements so that revolved funds may be loaned with greater flexibility. More than half of all SRFs are therefore issuing the vast majority of loan funds to larger municipalities that have the financial and organizational capability to meet federal requirements and loan conditions. Cities are more likely to be ready to proceed to construction — because they are more likely to have met preliminary requirements. Many are able to repay loans on accelerated schedules because of their revenue-generating capability. Although the goal of this strategy is to generate a healthy repayment stream that will enable SRFs to make loans with no federal strings attached, the effect is to give larger municipalities easier and earlier access to limited funds. Low-income rural communities face the prospect of having to wait for revolved funds to trickle down to them at some uncertain time.

## Principal Findings

### Rural Wastewater Facility Needs

- Reliance on inadequate individual ("on-site") septic systems is prevalent in rural and rural poor communities. *Failing septic systems need to be replaced by new municipal collection and treatment facilities.*

- *More than 16 percent of the facilities in rural poor counties are not providing secondary treatment.* This is twice the national rate. One out of every six facilities in rural poor counties is discharging either raw sewage or sewage

that has been treated insufficiently to meet secondary-treatment standards. Inadequate treatment is most prevalent in poor rural counties in the South, particularly in Arkansas, Mississippi and Louisiana.

■ *24 percent of currently operating wastewater treatment facilities located in rural counties are violating their effluent discharge permits.* Facilities in poor rural counties have the worst compliance record, with 30 percent discharging effluent into surface waters at higher levels of contamination than their permits allow.

■ *32 states report that wastewater facility compliance problems are prevalent among facilities serving residents who can least afford to finance required improvements.* Non-complying facilities typically serve a small, often rural, low-income customer base.

■ *Rural poor facility noncompliance is most often caused by poor operation and maintenance.* Revenues do not cover the costs of facility maintenance and equipment replacement, and facilities often do not employ trained operators. As a result, such systems may lack the capacity to maintain compliance even when facilities are upgraded.

### State Revolving Funds

■ *States are targeting SRF loans to larger municipalities with greater financial and organizational capability because they have met preliminary requirements and are ready to proceed to project construction.*

■ *States are overwhelmingly providing incentives for accelerated loan repayment schedules and encouraging disbursement of large loans tied to federal capitalization monies.* More than half of all states are:

- providing interest-rate subsidies to borrowers able to enter into short-term loans, regardless of the borrower's need for subsidized assistance;
- encouraging participation of cities with high bond ratings to enhance the marketability of SRF bonds; and
- lending to projects that have met all preliminary planning and design requirements by providing high priority ranking for readiness to proceed to construction.

■ *Facilities with small customer bases serving low-income households are unlikely to be able to afford SRF loans and will require grants to address their wastewater facility needs.* Forty states anticipate that some small systems will be unable to afford SRF loans; 23 states consider the lack of grant funds to be the greatest obstacle to addressing rural low-income facility needs; and 19 states report that excessive project costs, based on dollars-per-household cost or user rates as a percentage of median household income, are the largest impediment to financing rural facility projects with SRF loans.

■ *34 states are taking actions to target a share of SRF funds to small, rural and low-income facilities.* However, such actions are likely to benefit only those facilities that can otherwise qualify for SRF funds and can afford to meet debt repayment requirements. *Unless rural poor communities can meet preliminary requirements, they will not have access to SRF loans even if funding terms are affordable and funds are earmarked for rural low-income communities as a group.*

■ *16 states are setting aside funds for a target population or project type that benefits small, rural and/or low-income communities.* Excluding the New York SRF, in which \$93 million has been set aside for small and low-income communities, the average set-aside is 10 percent of the SRF allocation, or \$4.1 million.

■ *SRFs in eight states — Illinois, Kansas, Missouri, New Jersey, Ohio, South Carolina, Washington, and Wisconsin — have established a separate project category to address rural facility needs, primarily for new sewer facilities in unsewered areas.*

■ *SRFs in 12 states — Delaware, Kentucky, Maryland, Minnesota, Montana, Nebraska, New York, Pennsylvania, Tennessee, Utah, Virginia and West Virginia — offer loans at interest rates on a sliding scale to as low as zero percent, based on ability-to-pay or demonstrated economic need.*

■ *SRFs in 10 states either offer or are planning to offer loans at two fixed interest rates, with the lower rate (usually zero percent) reserved for facilities serving "hardship" areas experiencing economic distress.* The states are Indiana (proposed), Minnesota, New Mexico, Ohio, Pennsylvania, South Carolina, Texas, Vermont, Washington, and Wisconsin (proposed).

■ *Subsidized interest rates are also offered for specific project types.* Both Arkansas and New York offer lower-interest-rate loans for projects that utilize innovative/alternative (I/A) technologies to encourage the use of lower-maintenance-cost technologies in rural areas. Wisconsin and Illinois SRFs offer interest-rate subsidies for unsewered community projects.

■ Some states are developing operation and management assistance programs to help rural poor facilities improve budget management, establish sufficient user-rate schedules, and develop maintenance plans to meet compliance requirements.

### Potential Impact of SRFs on Other Funding Resources

#### Farmers Home Administration

FmHA project funding data from FY 1985 to FY 1988 was used to evaluate FmHA's role in sewer project funding. Water projects account for more than half of all FmHA-funded projects during this period; FmHA sewer projects represent 40 to 46 percent of all FmHA projects funded. Nearly a third of all FmHA sewer projects also received Construction Grants assistance, averaging 55 percent of project costs.

More rural poor communities may submit requests for FmHA assistance as a result of the transition to SRFs. *FmHA, however, cannot fill the financing gap created by the termination of the EPA Construction Grants program.* FmHA annual grant funding allocations average a tenth those of EPA. The average size of sewer projects jointly funded by EPA and FmHA is two to four times larger than sewer projects funded by FmHA.

From FY 1985 to FY 1988, FmHA funded 1,923 water projects totalling \$102.1 million in loans and grants. Because of FmHA's significant role as a funding source for drinking water projects serving rural poor communities, it is unlikely that sewer projects will come to dominate the FmHA portfolio.

#### State Bond Banks

State bonding authorities provide public entities, primarily municipalities, with access to tax-exempt credit to finance community facility projects including water and sewer infrastructure. Interviews were conducted with representatives of 13 state bond banks and seven state financing authority representatives to obtain information about the characteristics of bond bank beneficiaries, financing terms and obstacles to bond bank participation.

Historically, state bonding authorities have helped small, rural communities obtain financing at market interest rates for projects averaging \$2 million or less. Fast funding turnaround and simplified access to the bond market are the greatest savings offered by bonding authorities. Several

bonding authorities were created specifically to assist small communities obtain financing to cover the local share costs of sewer projects that also received Construction Grants assistance.

Bonding authorities may no longer serve as a financing mechanism for local-share costs following the termination of the Construction Grants program. Rather, bonding authorities may offer small, rural communities a more accessible financing alternative than SRFs because of their streamlined procedures, fast turnaround and simple preliminary requirements. However, bond bank participants must charge sufficient user rate structures to cover operating costs and annual debt fees. *Unless revenue-generating capacity and budget management practices are improved, numerous rural and rural poor facilities may not be able to borrow from either state bonding authorities or SRFs.*

### Impact of New Regulations

As noted, many SRFs are targeting the majority of their loan funds to larger municipalities in order to comply with federal requirements and protect the long-term viability of revolving funds. A smaller share of SRF funds is being targeted to rural facility needs by using set-asides, separate funding categories, and interest-rate subsidies. At issue is whether SRF targeting based on ability-to-pay will result in SRF access for rural poor communities that require substantial subsidies to complete projects.

Unsewered rural poor communities cannot afford to finance new sewer collection and treatment facility projects with 100-percent SRF loans, even with interest-rate subsidies. Yet rural poor facility needs data show that new sewer facilities account for 90 percent of documented facility needs. *Rural poor communities will not be able to provide new sanitation systems meeting federal standards unless additional subsidies are provided.*

As a general rule, the states providing SRF loan subsidies or supplemental grants to meet treatment facility needs in rural poor communities are relatively affluent — at least by comparison to other, economically distressed states. It is generally true, therefore, that in most of the states with the greatest need — that is, with the greatest numbers of inadequate facilities — rural poor communities do not have access to affordable funding.

The transition to SRFs has resulted in increased scrutiny of facility operation and management practices. Some states have developed assistance programs to help facilities improve budget management and capital improvement planning. Given the high rate of noncompliance among rural poor facilities, such assistance may be an effective means of targeting rural poor facility needs.

## Recommendations

### EPA Needs Survey Data

Clean Water Act funding has required that states address compliance problems and regulation-based needs. However, if SRFs are to issue loans on the basis of financial capability, a broader spectrum of needs factors should be included in EPA Needs Survey data. In addition to economic characteristics, information on system organization and management would allow funding agencies to determine facilities' ability-to-pay and to maintain compliance with federal standards.

The SRF state allocation formula, based on the EPA Needs Survey, reflects the significant cost of urban projects. However, the vast majority of documented facility needs are located in rural communities. The SRF allocation formula should reflect that concentration of needs.

### Rural Poor Facility Needs

EPA Needs Survey data and SRF survey responses show that rural poor communities must develop new municipal facilities. In fact, rural and rural poor communities account for more than 90 percent of the national facility need for new facilities. Water Quality Act priorities should address the need for basic infrastructure in rural poor communities.

Rural poor communities should receive at least the same level of capital investment that larger municipalities received during the Construction Grants program. Moreover, facility funding terms should be based on ability-to-pay to ensure that rural poor communities obtain access to affordability facility financing.

Regulators should investigate the reasons for the high incidence of facility noncompliance among facilities serving rural poor communities. Regulators should evaluate facility budgets, maintenance schedules, operator responsibilities and physical plant to ensure that, if upgraded, facilities can be adequately operated and maintained.

### State Revolving Funds

*Loan Accessibility:* State and federal SRF staff should develop more flexible criteria for preliminary studies so that, based on facility needs, rural

applicants may work with state technical assistance staff to develop adequate preliminary studies. When more in-depth studies are required, preliminary planning assistance grants should be available. Such measures will increase rural community access to SRF loans.

*Loan Affordability:* SRFs should be separated into two funds, one that revolves and is self-sustaining and another that functions simply as a lending institution. The self-sustaining revolving fund should offer loans to creditworthy applicants that do not require interest-rate subsidies. The lending institution should offer loans based on applicants' ability-to-pay. Debt service requirements for loan repayment should target reasonable user charge levels that combine debt repayment and operation, maintenance and reserve costs. When debt service requirements cannot be met, supplemental grants should be provided to reduce user charges to an affordable level.

*Unsewered Rural Poor Facility Needs:* Where soil and topography allow, unsewered rural communities should have access to grants to replace inadequate septic systems and to create management districts to ensure that such facilities are properly operated and maintained.

Where municipal collection and treatment facilities are needed, projects should be phased or separated into segments. Consolidation options should be evaluated as a means of spreading costs. Other cost-cutting measures such as use of self-help volunteer labor and shared equipment should be encouraged where appropriate. Rural poor communities should receive 75-percent grants for initial capital construction costs, just as larger municipalities received in the early years of the Construction Grants program. State staff should work with rural communities to encourage the use of low-maintenance cost technologies.

*Rural Poor Facility Noncompliance:* Financial audits should be conducted on all rural sewer systems. Rural communities should receive assistance to evaluate financial capability, establish budgets, and develop capital improvement plans. Facilities should be required to maintain reserve funds that can be used for capital expenses. In cases where facilities would be required to charge unaffordable user rates to cover operating expenses, facility consolidation options should be explored. In some cases, rural poor communities that did not benefit from Construction Grants may gain access to SRFs when funds are offered for preliminary studies.



**STATEMENT OF  
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**ON BEHALF OF THE WATER ENVIRONMENT FEDERATION**

**BEFORE THE  
SUBCOMMITTEE ON WATER RESOURCES AND THE ENVIRONMENT  
HOUSE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION**

**HEARING ON WASTEWATER TREATMENT NEEDS IN SMALL COMMUNITIES**

**FEBRUARY 23, 1993**

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STATEMENT OF A. ROBERT RUBIN, Ph.D.  
ON BEHALF OF THE WATER ENVIRONMENT FEDERATION  
BEFORE THE WATER RESOURCES AND ENVIRONMENT SUBCOMMITTEE  
HOUSE PUBLIC WORKS AND TRANSPORTATION COMMITTEE  
February 23, 1993

Mr. Chairman and distinguished members of the Subcommittee, I am A. Robert Rubin, Associate Professor in the Department of Biological and Agricultural Engineering at North Carolina State University in Raleigh, North Carolina.

I am here today representing the Water Environment Federation (WEF) before this Subcommittee to provide testimony regarding:

- \* Wastewater treatment needs in small communities and rural areas;
- \* Role of alternative technologies in addressing these needs;
- \* Experiences with approval and implementation of wastewater management facilities in small and rural communities;
- \* Residual management practices in these areas;
- \* Role of federal, state and local governments in promoting adoption, implementation, and life cycle management of alternative technologies in small and rural communities; and
- \* The impact of increased environmental mandates in small and rural communities.

The Water Environment Federation is a non-profit professional, educational and technical organization devoted to providing leadership and guidance in the preservation and enhancement of our nation's water resources. Founded in 1928, the Federation has over 40,000 members in 64 Member Associations, three Corresponding Associations, and seven recognized operator associations throughout the world. WEF members include environmental and civil engineers, scientists, wastewater treatment plant operators and managers, and others working in state and local government, federal agencies, industry, academia and private practice. These are the people who are responsible for implementing the nation's clean water programs.

I have over 15 years of experience in research and development of low-cost technological and institutional solutions to wastewater treatment in unsewered areas, and in the development of management, training and certification programs for individuals. My specialization is in the planning and design of affordable wastewater collection and treatment facilities in unsewered communities, remote settlements, individual homes and rural businesses and industries. My relevant experience includes:

- \* Research, development and implementation of alternative cost-effective collection and treatment technologies, including small diameter gravity sewers and pressure sewers, mounds, cluster subsurface wastewater infiltration systems, sand filters, surface irrigation facilities and biosolids (beneficially reusable sewage sludge) management;
- \* Technology assessments for U.S. EPA, World Bank and North Carolina state agencies of sand filters, small diameter gravity sewers, spray irrigation, wetlands, biosolids management and proprietary products for onsite treatment;
- \* Contribution to design manuals produced by WEF and U.S. EPA for alternative sewer systems, onsite treatment and disposal alternatives and land application systems; and
- \* Authorship of professional papers dealing with performance evaluation of alternative waste management and utilization technologies, and planning, design, construction and operation for small-scale developments.

The Water Environment Federation recognizes the unique wastewater management needs facing small communities, and has taken action to help meet those needs. We have formed a Small Community Committee to explore methods of bringing technical and other assistance to small community leaders, consulting professionals and treatment plant operators, and to further research and development of appropriate technologies geared to meet small community treatment needs. In addition, our Technical Practice Committee has published two design manuals to assist engineers in the planning and design of cost-effective facilities: "Alternative Sewer Systems" (1986), and "Natural Systems for Wastewater Treatment" (1990). A workshop entitled "New Approaches for Small Communities" was conducted at the annual WEF conference in New Orleans last September. Another workshop is planned for December 1993, and we plan to disseminate information and findings from this workshop to small

communities through member organizations of the Federation.

#### WASTEWATER TREATMENT NEEDS IN SMALL COMMUNITIES

Thousands of small communities in the U.S. are unsewered or served by inadequate wastewater infrastructure. These communities and rural areas need improved wastewater management facilities. Many rely on individual onsite treatment systems, typically some form of a septic tank/subsurface infiltration system, to provide wastewater treatment on each property. These systems are groundwater recharging systems which rely on the soil to provide the necessary treatment. While these can be very effective treatment systems when sited, sized, installed and managed properly, inadequate codes regulating their use and poor code enforcement have allowed septic tank system failures to occur. As a result, partially treated wastewater (septic tank effluent) is directly entering surface waters and groundwater. The failures often are difficult to correct because small lots or unsuitable soils preclude the repair or replacement of the onsite system. Therefore, widespread failures often lead to calls for public wastewater management facilities to address public health hazards and mitigate environmental impairment, to protect property values and to enhance economic growth.

Implementation of public wastewater facilities in small communities is difficult because most small communities lack the fiscal and technical resources for facility construction and operation. Many are rural and unincorporated with a very limited tax base and ability to pay. Their economies often are based on agriculture, mining, unskilled labor or tourism. Family incomes typically are low, with a large proportion of the residents living on fixed incomes. The fiscal dilemma is compounded increasingly by the multitude of mandates which small community infrastructure is required to address and which compete for the scarce resources available.

In addition, the community officials are likely to be unpaid, part-time volunteers with few or no technical skills in wastewater treatment planning or

operations. A recent EPA study found that 40% of governments in small communities rely completely on volunteers instead of paid staff. They may not be aware of options available to them for addressing wastewater problems, nor what they must do to get started. Available resources which could be helpful do not reach them because of the lack of effective communication channels between regulating agencies and the regulated community.

Conventional wastewater collection and treatment technologies are not always appropriate for small and rural communities. The traditional system, comprised of gravity sewers which collect wastewater from each connection for treatment at a central plant prior to discharge into a surface water, was developed for use in large urban areas with high development densities. In small communities, however, the small number of users and the low development densities result in prohibitively high per capita costs for system construction, operation, and life cycle management. In some cases, the construction costs of a traditional facility have exceeded the total assessed value of the community. Yet, it is this facility concept that most often is applied.

Selection and designation of appropriate technologies must be a concern when dealing with small communities and rural areas, as economic viability is a paramount concern. When user charges for wastewater management exceed 1% of an average family's annual income, the family's standard of living is likely to be impacted adversely.

For example, the median annual income in most small communities in North Carolina is \$15,000 to \$20,000. At a 1% limit, the user charges should not exceed \$200 per year. However, in one previously unsewered North Carolina community (Waxhaw), a user charge of \$420 per year was proposed for a conventional collection and treatment system. An innovative collection and treatment system ultimately was selected, and user charges have averaged \$240 per year. By comparison, the state-wide average for all municipalities and communities is around \$360 per year. With such high costs, small communities have difficulty in paying the costs to build and operate systems. Appropriate technology with flexible financing is critical to the development of effective

wastewater management plans for small communities and rural areas.

The high user charges usually are due to the costs of constructing the collection system. While the area to be served by sewers is sometimes an issue, the decision to construct sewers rarely is questioned. Yet, construction of sewers is the single largest cost item in conventional facilities. In urban areas, where the average length of sewer per connection is less than 15 feet, sewer construction accounts for more than 65% of the total annual costs of the wastewater facility. In small communities, the average length of sewer per connection is 6 to 7 times the urban average. As a result, sewers typically are installed only in the most densely developed area of the community, leaving residents outside the area to fend for themselves. Increasingly stringent water quality standards also are forcing small communities and rural areas to evaluate more costly treatment alternatives which include advance filtration and nutrient removal.

While financial assistance can reduce the impact of the costs of facility construction, the annual cost of operation and maintenance of a conventional secondary, advanced secondary or tertiary treatment plant can represent the greatest single cost to the users over the life of the project. The more stringent the water quality standard, the greater the operational costs and the greater the financial burden on local rate payers.

The financial incentives are greater to design and construct larger systems. Consequently, small communities have been left on their own, and they are floundering. They must meet the same environmental standards as larger communities, but they and their consultants often are led to utilize costly and inappropriate technologies in meeting those standards because of mistrust of alternative technologies.

Although the user charges for small community facilities are significantly higher than in metropolitan areas and the financial capability of the communities to pay is less, small communities have received the lowest priority for financial aid. This is because past financial assistance has gone to larger dischargers whose discharges posed a relatively greater risk to the

environment. Yet when total pollutant loading into the environment is calculated, the residents of small communities and rural areas do discharge proportionately similar constituent loads as their urban counterparts.

In North Carolina, where 55% of the population lives in rural areas and small communities, the actual input of pollutants into the environment actually is greater from these areas than from metropolitan areas. Since 1978, North Carolina has received \$1.6 billion in federal assistance for wastewater management projects, 65% of which went to projects in metropolitan areas. According to recently collected data from U.S. EPA, \$3.9 billion in needs remain, of which 50% will be required to address small community and rural area needs.

In summary, wastewater treatment needs in small communities include:

- \* Financial aid in planning, design, construction and operation of wastewater management systems (especially if stringent water quality limits force untenable cost burdens on local rate payers);
- \* Cost effective collection and treatment technologies designed to protect public health and maintain or improve environmental quality;
- \* Effective facility management plans which include administration and operation/maintenance, as well as adequate training programs;
- \* Evaluation of the appropriateness of environmental standards and facility design criteria for small communities;
- \* A comprehensive outreach program to inform community leaders of their options and to assist them in the planning process, financial planning and financial aid procurement;
- \* A training and certification program to insure system operation and maintenance throughout its life cycle; and
- \* Methods for managing residuals.

## ALTERNATIVE WASTEWATER TECHNOLOGIES

Historically, the regulatory and engineering communities have focused upon the wastewater treatment needs of major metropolitan areas and larger communities. As a result, the wastewater collection and treatment facility with which we are most familiar is conventional gravity sewers conveying wastewater to a mechanical publicly-owned treatment works (POTW). With the introduction of indoor plumbing, collection sewers patterned after storm sewers were constructed. However, land application or the use of soil materials (sand filters) were still used for treatment. Many communities in the western U.S. utilized treated wastewater for irrigation. As wastewater flows and land values increased, mechanical plants became a necessity because they did not require large areas with specific site criteria. Today, codes and regulations are written with the "modern" collection and treatment technologies in mind. Traditional training for design engineers largely ignores "low tech" alternatives. It has been only in the last 15 years that alternative technologies have been revived from the past or developed for application in small communities.

Today, several lower cost or more cost-effective options exist that may be applied effectively in small communities and rural areas. These include collection technologies and treatment technologies which provide the equivalent of secondary treatment. Many of the treatment technologies are based on "natural" systems which rely on the assimilative capacity of the natural environment for wastewater treatment and renovation. As such, no one alternative is effective for meeting every need because the characteristics of each community vary. Therefore, the various alternatives represent the "tools" in a toolbox which planners, engineers, operators, local officials and regulatory agency personnel can utilize to address specific wastewater treatment needs and goals.

The town of Stovall and the unincorporated community of Terra Cia in North Carolina illustrate the need for encouraging the use of alternative technologies. They both have a clear the need for wastewater treatment

facilities, but the costs associated with conventional collection and treatment to very stringent water quality standards will preclude construction of facilities in these communities. By utilizing alternative collection, treatment, and wastewater management technologies, however, a cost-effective system could be designed and implemented.

#### Septic Tank System Management

Reducing the extent of sewers needed by decentralizing treatment has a significant impact on facility costs. The most decentralized system is one where each building is served by an individual septic tank system. Properly maintained onsite systems could eliminate the need for central sewerage. It is difficult for some to imagine individual septic tank systems as being a permanent solution when they often are the reason that wastewater facility planning is initiated. However, the reason for the failure of most onsite systems is the lack of effective management, either through inappropriate application of technology or lack of maintenance. Conventional sewerage systems are designed by qualified engineers and operated and maintained by trained personnel. If malfunctions occur, it is the responsibility of these personnel to correct the problem. Septic tank systems, on the other hand, traditionally have been designed based on outdated codes and operated by untrained owners. Professional management rarely is provided.

Septic tank management includes not only the hardware and leach field, but disposal of the residual material (septage) which accumulates in septic tanks and requires periodic removal. New federal guidelines from EPA spell out management standards for all domestic sewage sludge and septage. Unfortunately, many small communities are unaware of the new Part 503 regulations and will not be in compliance when the standards become effective. Even those who do receive information may not be able to meet the requirements of the regulation, which will require expensive testing. Stabilization and conditioning also will be required in order to beneficially reuse septage and sludge.

Septic tank systems do not create the need for public wastewater facilities --

lack of effective management does. Septic tank systems and their alternatives are legitimate wastewater treatment systems. For too long we have considered them "interim" facilities which should be abandoned when sewers arrive. But many communities cannot afford, or are unwilling to pay, the cost of central sewerage. A change in technology may not be the answer if cost-effective facilities are to be constructed. Rather, a change in the level or nature of facility management may be all that is needed. New physical facilities come at a high price; new management operations may not. Effective management (public or private) of onsite facilities could ensure that appropriate alternatives are utilized and that timely and appropriate maintenance is provided.

Stinson Beach, California is located in an environmentally sensitive shellfish area and bird sanctuary. In the late 1970's the community was ordered to stop using septic tanks due to contamination of shellfish beds linked to the septic systems. Plans were drawn to install a conventional wastewater collection and treatment system, but opposition arose to the estimated \$425 per year cost to rate payers. As an alternative, the local water district came up with a plan to institute public management of the septic systems to correct malfunctions and ensure timely maintenance. The plan was implemented, and subsequent water quality monitoring has shown it to be successful. The cost to the 675 homeowners is \$155 per year in user fees and \$96 per year in property taxes, with construction and repair costs paid directly by the owners.

Statewide onsite maintenance programs also exist. In the State of North Carolina, a program was established recently to train and certify operators of onsite systems. All privately owned onsite systems in the state are classified according to the complexity of the system design. Operating permits are required for those systems which utilize a sewage pump, and minimum maintenance inspections are specified for each category. The maintenance must be performed by certified operators. With this program, future failure problems could be prevented, thus avoiding the necessity for central sewerage. To date, 650 individuals have been trained and certified. The program involves the cooperative extension service, state training agencies and certification commission, and relevant regulatory agencies.

### Alternative Sewer Systems

Where individual onsite systems are not feasible because of small lots or difficult site conditions, the wastewater must be collected from each property for treatment at a remote site. Construction costs of conventional gravity sewers, which are designed to permit the wastewater to flow down a sloping pipe under the force of gravity, often are prohibitive in small communities because of excavation and material costs necessary to bury the large diameter pipes with straight alignments and uniform slopes between manholes.

Alternatives to conventional sewers for low density developments have been designed. They differ from conventional sewers by changing the motive force (the force which moves wastewater through the system) and/or the character of the wastewater collected to reduce excavation and pipe costs. The most commonly used alternatives today are pressure, vacuum and small diameter gravity sewers.

Pressure sewers use positive pressure created by small pumps at each connection rather than gravity to convey wastewater through the sewer mains. This method allows the mains to be installed at a constant depth rather than maintaining uniform downhill gradients as required by traditional gravity sewers. By providing pretreatment at the connection to remove trash, grit, and other settleable solids, smaller diameter pipes (2-6 inches) can be used and installed. These pipes can be installed around existing obstructions in the path of the sewer. Small pumps are installed at each connection, usually on the property served, to pump the wastewater into the mains. Grinder pumps often are used because they macerate solids in the wastewater to create a slurry much like that of a kitchen sink disposal, thus preventing clogs in the smaller diameter pipes. Another option is to use septic (or interceptor) tanks, which allow solid material to settle out, and then pump the wastewater into the mains by means of effluent pumps. These systems are known as septic tanks effluent pumping (STEP) pressure sewers.

Vacuum sewers are similar to pressure sewers in that wastewater is conveyed by a difference in pressure rather than by gravity. The vacuum pumps are located

in a central station with vacuum interface valves located at each connection. Raw wastewater, rather than settled wastewater, enters the collection main at the interface valve. Raw wastewater accumulates behind the valve until, after reaching a set volume, the valve opens and the wastewater moves forward, propelled by the difference in atmospheric pressure behind it. The slug of wastewater travels to the next interface valve, where the process repeats itself. In this manner the wastewater reaches a central vacuum station from where it is pumped by mechanical means to a treatment facility.

Small diameter gravity sewers are similar to pressure sewers except that wastewater flows by means of variable or inflective gradients (alternating between downhill and uphill flow) instead of by mechanical pumping. Liquid follows an overall negative gradient from sources to the ultimate treatment facility, or to an interceptor sewer and then to the treatment facility.

Table 1 describes the characteristics of each of these and Figures 1-3 illustrate their construction. Several hundred alternative sewer systems are operating successfully around the U.S., Canada, and Australia with reported cost savings of up to 50% of conventional gravity sewers.

#### Natural Systems for Wastewater Treatment

One major difference between "natural" systems and conventional systems is the reliance on the land to treat and renovate wastewater. Maximizing the use of existing resources in the community can minimize the cost of treatment facilities. One resource that small communities usually have that urban areas do not is land. Utilizing the assimilative capacity of the local environment rather than concentrating the wastewater in a small area and injecting energy through mechanical means will reduce the costs of treatment. Natural systems typically require fewer and less skilled operational staff, consume less energy and produce lower volumes of residuals than do conventional mechanical or aerobic facilities. They also can produce higher quality effluents.

Natural systems utilize either soil or specialized aquatic environments. Soil-based systems include subsurface infiltration (septic tank systems or

cluster systems), slow rate land application (irrigation onto a vegetative surface such as pasture, cropland or forest), rapid infiltration (flooding of shallow basins) and overland flow (sheet irrigation of vegetated slopes). Aquatic systems include stabilization ponds (artificial ponds), floating plant systems and natural or constructed wetland systems. Although these systems have been demonstrated to offer cost-effective treatment in many localities, the application of any one of these is limited by site characteristics and climate. Their application also is limited by the unfamiliarity with alternative technologies of many in the consulting field.

Mayo Peninsula on the shores of the Chesapeake Bay in Anne Arundel County, Maryland is a good example of the use of natural systems for wastewater treatment. This eight square mile area containing 2300 homes is served by a decentralized wastewater facility which includes individual septic tank systems, cluster subsurface infiltration systems and a communal system using artificial and natural wetlands for treatment. This communal system collects septic tank effluent from a large number of homes through pressure sewers which convey the wastewater to a central facility for treatment by sand filtration bulrush/cattail wetland, peat wetland and finally a natural offshore wetland (Figure 4). Through this process, the wastewater is nearly completely reclaimed at a capital cost estimated to be \$12 million less than conventional treatment. In addition, the natural environment is preserved and enhanced.

In the Chowan River Basin of North Carolina, all municipal wastewater discharges to surface waters were eliminated through construction of municipal wastewater irrigation facilities, which applied the treated wastewater to pasture and forest lands. The total costs of the facilities was 25-50% less than conventional treatment and they eliminated all nutrient contributions to the surface waters. The recycling of municipal wastewater through the plant/soil system is an appropriate alternative for these communities. It keeps operating expenses and overall treatment costs reasonable, and helps them comply with the tenets of the Clean Water Act to eliminate the discharge of pollutants.

### Sand Filters

Sand filters are similar to other natural systems in that natural materials and processes are used for wastewater treatment. They consist of beds of medium to coarse sand over which settled wastewater is applied. Biological treatment of the wastewater occurs as the waste percolates through the sand bed. Effluents which exceed secondary treatment standards are achieved with little power consumption and operator attention. Sand filters have a long history of successful performance, but, until recently, they were a technology forgotten as they were abandoned for mechanical plants. Hundreds of small communities and rural schools in the U.S. are now using this technology. Experience has shown them to be trouble-free, providing advanced treatment levels at reasonable construction and operation costs.

### Water Conservation

Reducing the amount of water to be treated is an alternative often overlooked. Until recently, water conservation could not be implemented successfully because of the lack of appropriate plumbing fixtures. Today, however, quality products are available. Ultra-low volume flush toilets have been shown to reduce wastewater flows by 40-70%. Composting toilets eliminate toilet wastes altogether. The remaining wastewater can be recycled for toilet flushing or for irrigation of greenhouse plants. Water conservation is just emerging as a viable solution to wastewater treatment problems and needs further research.

An ongoing study by the Hatteras Water Association in Buxton, North Carolina is finding that water demand can be reduced 20-30% with a water conservation program. This private association is benefitting from demand reduction. Although revenue has declined, reduced demand has enabled the association to meet all of the water needs in its service area.

## **DEVELOPING AND IMPLEMENTING ALTERNATIVE TECHNOLOGIES**

Development of alternative technologies is slow and difficult. No national

program exists currently with a goal to develop effective and affordable wastewater treatment alternatives suitable for small communities. Therefore, the development of new technologies springs largely from individual efforts that often are underfunded and lack adequate peer review.

The 1977 amendments to the Clean Water Act attempted to provide incentives for development of innovative technologies and implementation of proven, but seldom used, alternative technologies. A 10% construction grant bonus was given to portions of projects which included technologies qualifying as innovative or alternative (I/A). The program accepted most of the risk by providing a 100% modification or replacement grant if the technology failed to perform as designed within two years of operation. The majority of these funds were used by the large municipalities because they were perceived to be the largest contributors of pollutants. Because of the small size of their discharges, small communities were not thought to be a good use of I/A funds.

Application of I/A funding allowed the town of Waxhaw, North Carolina to develop an alternative collection and slow rate irrigation system at an average household cost of \$19/month. The cost per household under the original recommendation of the consultant using conventional collection and treatment technology was estimated at \$36/month.

In the 1981 amendments, the funding incentive was increased from 10% to 20% and a small community set aside was established. The set aside obligated rural states to reserve 4% of their construction grant allocation for implementation of alternative technologies in small communities. This I/A program was successful in implementing alternative technologies and raising the awareness of design engineers and the public about the availability of non-conventional technologies for small communities. Unfortunately, the program was terminated with the phasing out of the federal construction grants program in 1990.

Outside of the construction grants program, the U.S. EPA Municipal Environmental Research Laboratory funded research to develop and demonstrate alternative technologies for unsewered areas. These funds were responsible for the development of alternative onsite system designs for use in areas with

soils unsuited for the conventional septic tank system, demonstration of alternative sewer technologies and assessments of several other treatment technologies. However, these funds were eliminated from the budget of U.S. EPA by 1984 and the program staff disbanded. This is most unfortunate when one realizes that approximately 1/3 of the U.S. population lives in unsewered areas.

The lack of funds has made implementation of public wastewater facilities in small communities difficult. First, small communities are suspect of alternative technologies. Often, the alternatives are perceived as "second class" or "experimental." As such, the communities are reluctant to spend their limited funds for design and implementation. Yet, they cannot afford conventional facilities. Another disincentive is that planning and design costs frequently are higher than those for conventional technologies with no guarantee of project success. Further, regulatory agencies and codes lack the flexibility to readily accept unfamiliar technologies, which creates delays and increases design costs.

Small communities are not completely without help. The State Revolving Fund (SRF) loan program, which has replaced the Construction Grants program, provides low-interest loans for wastewater facility construction. The program rules for establishing funding priorities are more flexible than the previous grant program so that assistance can more easily be given to small communities at the state's discretion. The Farmers Home Administration has a low cost loan and grant program for qualifying low income communities. Some states, such as Wisconsin, also provide low cost loans or grants from state funds in hardship cases. The Department of Housing and Urban Development administers the Community Development Block Grant program, which is directed toward low and moderate income communities. These block grants may be used for a variety of projects, including sewer construction. Funding in each of these programs, however, is limited and falls short of actual needs.

Non-monetary assistance also is available. The U.S. EPA Small Flows Clearinghouse is a resource for technical and non-technical information regarding wastewater facilities planning, design, operation and performance in

small communities. U.S. EPA also has published design manuals including "Onsite Wastewater Treatment and Disposal" (1980), "Land Treatment of Municipal Wastewater" (1981), "Municipal Wastewater Stabilization Ponds" (1983), "Constructed Wetlands and Aquatic Plant Systems for Municipal Wastewater Treatment" (1988), "Alternative Wastewater Collection Systems" (1991), and "Wastewater Treatment in Small Communities" (1992).

Additional assistance is available from state cooperative extension services and private, non-profit associations through programs such as the Small Towns Environment Program, sponsored by the Rensselaerville Institute in New York, and the Water Environment Federation's Technology Research and Inquiry Network.

#### HOW FEDERAL AND STATE GOVERNMENTS CAN HELP

##### Outreach

When faced with the need to upgrade their wastewater facilities, many small communities feel helpless. Their first concern is cost. They are not aware of what financial aid programs may be available nor how to utilize them. They are afraid to hire someone to help because that, too, will cost. If they try to pursue a solution on their own, the paperwork can become overwhelming. Further, they are not comfortable with alternative systems because they are perceived as untested or half-way measures. Thus, they often are frightened into inaction.

Better guidance must be given. Programs must be targeted specifically for small communities. Their options and required courses of action must be clearly presented to them at the time they are faced with the issue. Community officials are part-time volunteers that are not always free to attend general informational meetings. Direct communication is needed at the time compliance orders are issued. In many states, this will require close coordination between agencies since septic tank systems are usually regulated by health departments, while water quality issues are regulated by environmental protection departments. In unsewered communities, failing septic tank systems

are usually the cause of the compliance order. Informational brochures should be prepared for inclusion with compliance orders, and agency staff should be made available to meet with officials in their community to describe their options. Local contacts and peer match lists should accompany these orders so as to provide local officials with all necessary information needed for compliance.

### Financial Aid

The resource small communities lack most is money; money to construct the facility and money to manage it. Life cycle management is a critical and costly issue. Financial aid programs are needed if compliance with water quality standards is to be achieved. Financial aid programs traditionally have provided grants to communities for construction, but not operation. There are several examples of wastewater facilities being constructed with grant support that were too costly for the community to operate. Ability to pay for specified technology must be taken into account. The Farmers Home Administration loan program bases any grant amount on the annual income of the community. However, funds are provided only during the construction phase. Though planning and design costs are reimbursable, the community is responsible for these costs until that time. This can be frightening in the absence of a secure funding source.

The State of Wisconsin has established a hardship grant program that is proving to be successful. Communities qualify for a low or no interest loan and/or grant based on the community's ability to pay. The basis of the assessment is the average annual family income and the total assessed value of the property in the community in relation to the estimated user charge for operation and maintenance of the facility. Funds are provided in advance of planning and design to relieve the community of obtaining any commercial loans until project implementation. Such a program may provide a good model for federal or other state programs.

Public funding of community facilities has required that the recipient be a public entity. This has inhibited the privatization of these facilities for

efficiency of administration and operation and for economies of scale. Most small communities do not have the personnel or skills to administer, operate or maintain the facility after construction. Privatization may be an answer. Prior to 1986, privatization was gaining momentum, but the Tax Reform Act created disincentives for privatization. Modifications to tax codes could encourage long term investment in rural infrastructure and reduce the overall cost of government. Changes in funding requirements to allow public/private partnerships need consideration also.

Finally, the paperwork with financial aid programs needs to be reduced. Not only is it overwhelming to the grantee, but it also is overwhelming to the small local contractor. Larger contractors located outside the community, and usually with higher overheads, are the only ones that typically compete for projects receiving grants-in-aid. This adds to the high per capita costs in small communities.

#### Regulatory Agency Flexibility

There are as many as 800 different environmental compliance issues that can apply to small communities. Many of the regulations which deal with these issues were developed primarily for densely developed areas where risks to the environment are significant. However, they are applied uniformly to all communities. Uniform application may not be appropriate. The appropriateness of standards established in water quality regulations in small community settings should be evaluated. If inappropriate, flexibility should be built into the regulations to account for the significance of the potential environmental risks.

Similarly, design guidelines for wastewater facilities were written for urban conditions. Onsite systems are not considered to be a legitimate alternative, sewers are designed for peak flows experienced in metropolitan areas and industrial discharges, and wastewater treatment options do not include non-mechanical alternatives. When facilities are proposed that do not follow the established guidelines, approvals are difficult. Approving agencies need to be more accepting of alternative technologies. Design codes need flexibility.

Regulatory agencies need to be better informed about the technologies so that they are comfortable with them. Cost-effective, "low tech" alternatives need to be better promoted and encouraged. Regulatory agencies cannot, by law, approve facilities which do not meet water quality standards. As they are not comfortable with more cost-effective technologies for small communities and rural areas, inaction can result while water quality continues to be degraded.

Regulatory agencies also must recognize that small communities face a whole host of environmental management mandates, including water quality, solid waste, and drinking water. These mandates compete with each other for the scarce local funds available. Regulatory agency personnel and system managers must work cooperatively to establish realistic time frames for achieving compliance.

#### Research/Demonstration Program

Thirty percent of the U.S. population is unsewered. Thirty percent of all domestic wastewater in the U.S., representing over 3.5 billion gallons per day, is treated by onsite systems, most of which rely on soil and groundwater recharge for treatment and disposal. Yet, no federal funds are directed specifically for studies to develop effective wastewater management in unsewered areas. What research is done is done largely on the local level with little or no knowledge of what others have done or are doing. Much misinformation is developed and propagated. We spend much of our time traveling the same paths, many of them dead ends.

National direction is needed to develop strategies to investigate and develop wastewater technologies for small communities. Research and demonstration funds also are needed. What is acceptable performance? Can conventional technology achieve it and be affordable? Are other alternatives equally effective? What are they and how must they be designed and managed? Are existing environmental protection laws and codes appropriate for small communities? If not, how should they be changed? What is the supporting documentation and rationale for the changes? These are just some of the

questions that need to be answered. Without direction and money, they may not be for some time to come.

Direction and priorities should be developed, implemented, and evaluated through a process involving state and federal environmental and education agencies, cooperative extension services, professional societies, and non-profit associations.

#### CONCLUSION

Small communities face many difficulties in complying with environmental regulations. They have been largely neglected by the regulatory agencies and funding programs of the past, yet they are the poorest in resources. The quality of life, property values and economic growth in these communities are inhibited by the inability to upgrade their facilities. They need help. In closing, I would like to call your attention to four specific areas where I believe we can make a difference in helping small communities meet their wastewater treatment needs.

First, both state and federal regulatory agencies need to take extra effort to help small communities address their wastewater treatment and residual management needs. This includes putting more effort into providing technical and financial assistance, helping community leaders understand what is required of them under environmental laws and regulations, and making internal adjustments which facilitate and encourage the use of innovative and alternative technologies where appropriate.

Second, there needs to be better coordination between the relevant local, state and federal agencies which play a role in addressing small community wastewater needs. With limited financial resources, every dollar must count toward meeting these needs. Duplicative and contradictory efforts must be eliminated. Only through a coordinated and cooperative effort can agencies successfully reach out to small communities and provide them with the assistance they need.

Third, every possible funding option should be made available to help small communities. States should be encouraged to set aside funds through their State Revolving Fund or other mechanisms. Congress must address tax and regulatory disincentives which discourage small communities from obtaining private sector assistance.

Finally, the federal government must take the lead in promoting and facilitating research on wastewater treatment and residual management technologies which can help small communities. The federal government is the only entity with the resources and wherewithal to assess and coordinate research on a large scale. Research needs include new collection system technology, nutrient removal, groundwater impacts of land-based septic systems, and new biological treatment processes. Monitoring of existing sites and extensive data collection and analysis should be a key component of research efforts.

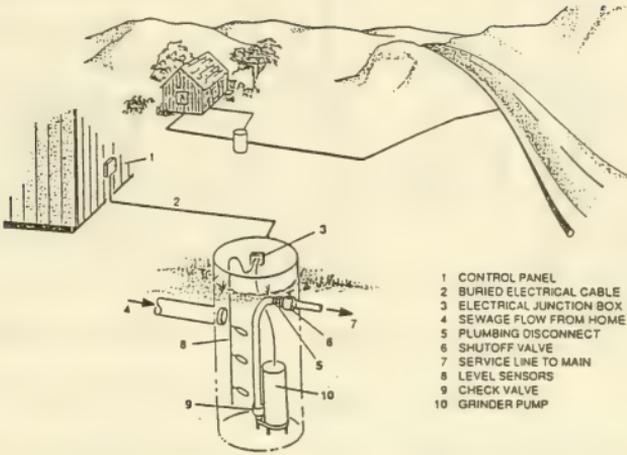
The Water Environment Federation would welcome the opportunity to work with this subcommittee in seeking solutions to the difficult problems small communities face in meeting their wastewater treatment needs.

I appreciate the opportunity to appear before you today, Mr. Chairman. This concludes my testimony.

TABLE 1: Characteristics of Alternative Wastewater Collection Technologies

SYSTEM TYPE	MOTIVE FORCE	WASTE CHARACTER	DESCRIPTION
Low Pressure a. Grinder Pump b. STEP	Positive Pressure  Positive Pressure	Ground raw waste  Septic tank effluent	Pump vaults at each connection store small volumes of wastewater for periodic pumping into small diameter collectors (1-1/4" min) laid at a uniform depth regardless of topography
Vacuum	Negative Pressure	Fresh, oxygenated raw waste	Pneumatic valves at each connection release small quantities of raw waste and air into small diameter vacuum collectors (3" min) laid shallow in a saw tooth pattern
Small Diameter	Gravity	Septic tank effluent	Septic tank effluent drains into small diameter (2" min) collectors laid at variable grade to conform to topography as allowable

(a) Grinder Pump (GP) System



(b) Septic Tank Effluent Pump (STEP) System

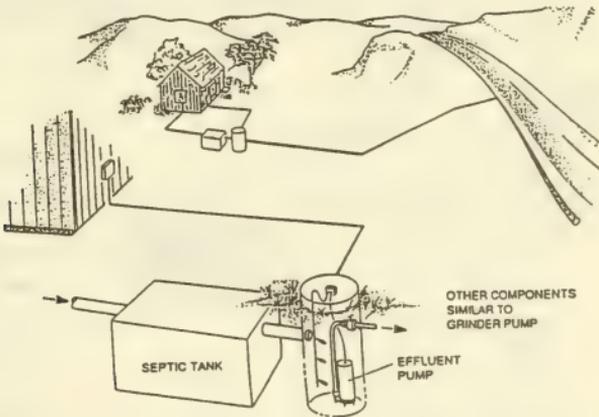


FIGURE 1: Schematic of Pressure Sewer Systems (U.S. EPA, 1991)

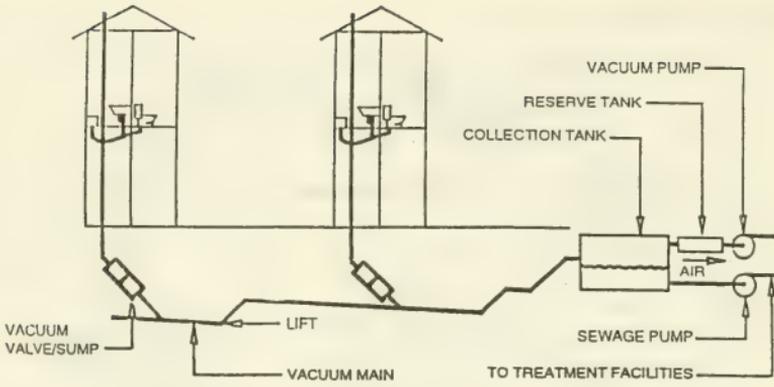


FIGURE 2: Schematic of a Vacuum Sewer System

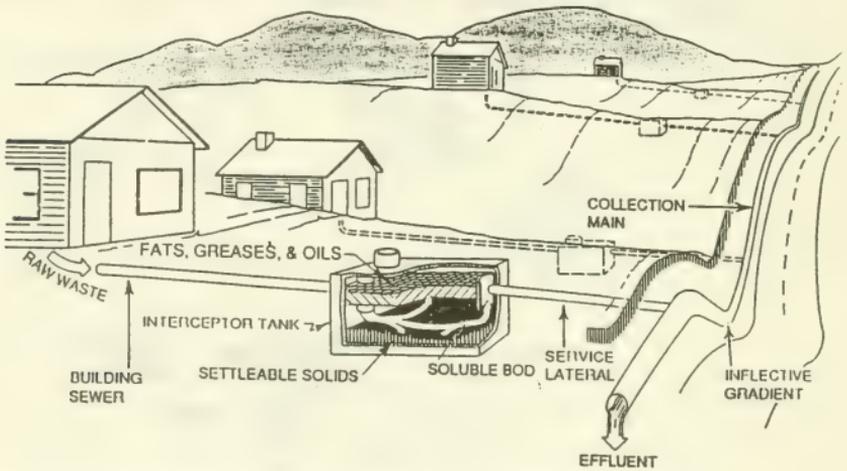
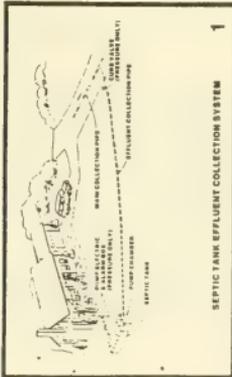
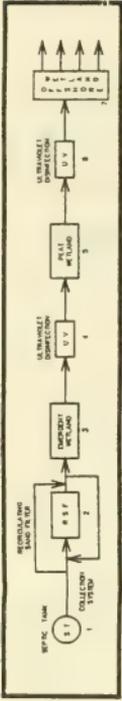
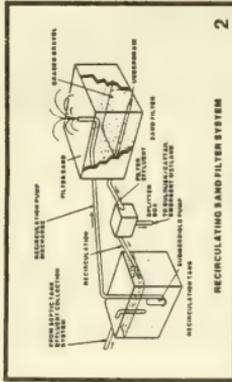


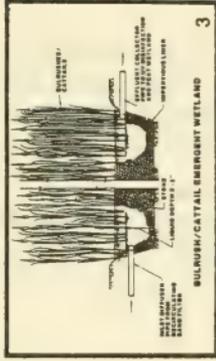
FIGURE 3: Schematic of a Small Diameter Sewer System



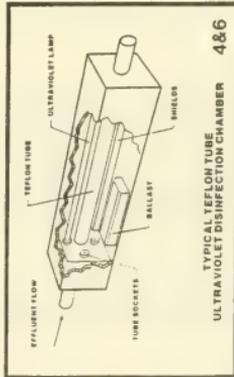
**SEPTIC TANK EFFLUENT COLLECTION SYSTEM** 1  
 Septic Tank Effluent Pump (STEP) system. Each property will include an on-site septic tank for solids removal. Effluent flows by gravity or is pumped to a collection system and conveyed to the treatment plant.



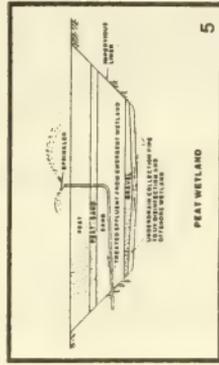
**RECYCLING SAND FILTER SYSTEM** 2  
 Recirculating sand filter. First, the effluent will be evenly distributed over a bed of sand, which purifies wastewater through physical and biological means.



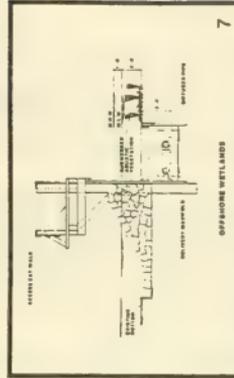
**SULPHUR/CATALYT WETLAND** 3  
 Man-made bulrush/cattail wetlands. Next, the filtered effluent will flow by gravity into man-made freshwater bulrush/cattail wetlands. Here, nitrogen will be removed and suspended solids, and pathogens will be further reduced.



**TYPICAL TEFLO TUBE ULTRAVIOLET DISINFECTION CHAMBER** 4&6  
 Ultraviolet disinfection. Then, the flow will pass through a chamber for ultraviolet disinfection, to eliminate pathogens.



**PEAT WETLAND** 5  
 Man-made peat wetlands. For phosphorus removal, the waste water will be applied to man-made peat wetlands.



**OFFSHORE WETLANDS** 7  
 Offshore wetlands. After final ultraviolet disinfection, the effluent will be pumped into a man-made offshore wetland with submerged aquatic vegetation. Nearby shellfishing and water recreational activities will continue undisturbed.

FIGURE 4: Communal Treatment System for Mayo Peninsula, Maryland

Statement of

Mr. Joseph Siragusano  
Board Member, Ohio Rural Water Association on behalf of the National  
Rural Water Association

U.S. House of Representatives  
Committee on Public Works and Transportation  
The Subcommittee on Water Resources and Environment  
[sewage treatment needs of rural and small communities]  
Washington, DC

February 23, 1993

Mr. Chairman,

2/23/93

As a board member of the Ohio Rural Water Association and member of the National Rural Water Association, I want to thank you for the opportunity to address the committee today. It is an honor and a privilege to appear before the Public Works subcommittee on Water Resources and the Environment.

First, I would like to this opportunity to introduce myself. My name is Joseph Siragusano and I have been the Director of Sanitary Engineering for the Jefferson County Water and Sewer District in Ohio for 27 years.

I am here on behalf of the National Rural Water Association and its 45 affiliated state rural water associations and their 12,000 member water and wastewater systems. Each state association provides training and on-site technical assistance in solving operational and maintenance problems to rural and small communities, during the course of the year we provide 45,000 on-site types of assistance.

Speaking on behalf of rural America, I would like to express my gratitude for your support and concern for the welfare of the people of rural areas. During my 27 years of employment with the Jefferson County Water and Sewer District, I have encountered many difficulties and hardships placed on the county government's water and wastewater systems, these problems and burdens commonly get passed onto the customers we serve.

I have come here today to express our support for a clean and safe rural environment. A safe environment must include the proper and safe treatment of wastewater.

Sewage treatment in particular is a problem because many small communities lack funds for projects as well as the competition between small and large communities for scarce feederal funding. As you know smaller communities received a disproportionate amount of grant program monies before 1987 and now are solely dependent on the loan funds.

To solve these pollution problems we need a new grant program specifically categorized for small communities rather than all EPA funding

going to revolving loans.

Our area is just one example of a typical rural community. Economically speaking, the area is under great financial stress. Jefferson County is basically a blue-collar work force, primarily supported by the steel industry. At the present time, many of the areas' residents are laid-off from the steel mills as well as other plants and manufacturing companies. Therefore, as numerous studies have indicated the income for rural areas is quite low, and Jefferson County is no exception.

Before I reflect on some, past and current, problems facing my community, I would like to acknowledge the support and concern this Committee has shown in dealing with the sewage problems of rural America. The Rural Water Association and the Ohio Rural Water Association greatly appreciate your consistent dedication to the cause for bettering the health and living conditions of rural residents.

As you know, in 1973 the Clean Water Act was passed by Congress to clean up our rivers and streams of pollution. I would like to briefly comment on my personal experience with past grant programs that were initiated in the 70's as part of the Clean Water Act and continued until 1987.

In order for a community to qualify for the 75% grants, each county, city or village had to do a facility plan study for areas that were in dire need of sewer collection systems or wastewater treatment plants. For example, in Jefferson County approximately 15 facility plans were completed and put on the priority list of the EPA for qualifying for grant monies. Out of the 15 projects, Jefferson County did not qualify for any grant monies.

With all good intentions, the grants did not help many rural areas with pollution problems. Most of the money was received by the large cities and thus eliminating small village and county projects.

After the grant program was phased out in 1987, Jefferson County was notified that our County and Sewer District could not comply with the Clean Water Act's provisions. Soon after this we were referred to the Ohio Attorney General's office for a consent of decree. Also we were informed that a civil penalty was imposed on Jefferson County for not complying with

the NPDES permit. At this time we were instructed by the EPA and the Ohio EPA to bring our plan into compliance within 2 years.

The cost of compliance was extremely costly and no monies were available through the grants, our only available funding was through the Revolving Loans.

The mandate, imposed on us, gave us no other alternative other than to raise the monthly minimum sewer rate on the residents. To meet the EPA and Ohio EPA's requirements on upgrading our wastewater facility plant we had to increase rates 500%. As you well can understand the 500% rate increase was met with extreme outrage by the approximately 2000 homeowners in the community. Many of these homeowners are on fixed incomes and currently are experiencing difficult financial hardships due to the local economy.

This is only one example of rural America not being able to keep up with increasing regulatory burdens. I am certain many similar rural communities have experienced the same difficulties as Jefferson County.

Mr Chairman at this point I would like to mention a few other sewage problems facing rural communities and Jefferson County.

First, for rural areas on-site sewage treatment often does not solve the wastewater problems.

Second, installing new septic tanks and leach fields are not viable for many areas because soils are not suitable for leach field operations.

Third, conditions exist today with actual raw sewage is being run into ditches in some rural areas.

These raw sewage problems often put our children's health in danger. Many rural residents do not have public water supplied to their houses, thus, they rely on well water which can be contaminated from septic systems.

Currently, we have numerous areas that need sewer construction

because of mandates by the Ohio EPA. Without additional federal assistance our estimated minimum cost per user of these projects is between \$80 and \$90 per month. As you can see without additional financial assistance these projects cannot go forward. The only funding available is loans. Obtaining loans does not reduce the construction costs to the point of affordability for our costumers. It is evident that what is a reasonable cost for a large metropolitan (or regional) public sewer system may not be reasonable for a small sewer system which serves relatively few users.

We should also note that in many cases, especially in rural systems, consolidation may not be possible or even desirable because of the distance between communities and homes.

The need for more federal financial assistance grows each years as federal regulations increase the amount of environmental requirements on small wastewater systems.

In closing Mr. Chairman, I would like to reiterate that without the assistance of the federal government the development of new systems and the expansions of existing systems will be very difficult to carry out. Federal regulatory requirements are dramatically increasing the cost of managing rural water and wastewater systems. Small communities have gone to their state governments for help only to be told that only loans funds are available.

I would like to thank all the members of this panel for all your efforts in providing the best possible living standards to rural Americans and urge you to initiate a wastewater grant program for rural America.



**American Consulting Engineers Council**

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**RURAL SEWAGE TREATMENT NEEDS**

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before the

**COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION  
SUBCOMMITTEE ON WATER RESOURCES AND  
ENVIRONMENT UNITED STATES HOUSE OF  
REPRESENTATIVES**

by  
**PAUL F. SPREHE**

On Behalf of the  
**AMERICAN CONSULTING ENGINEERS COUNCIL**

**FEBRUARY 23, 1993**

Mr. Chairman, Members of the Subcommittee on Water Resources and Environment. My name is Paul Sprehe. I am Chairman of PSA Consulting Engineers located in Oklahoma City, Oklahoma. I am a registered professional engineer.

I am also President-Elect of the American Consulting Engineers Council. Thank you very much for the opportunity to present ACEC's thoughts on sewage treatment needs of rural counties and small towns in this country.

ACEC is the nation's largest organization of independent consulting engineering firms, with more than 4,500 member firms representing over 175,000 employees. It's members annually design public and private works projects across the country having a value in excess of \$100 billion dollars. Many of these projects are designed for small towns and communities located throughout rural America by local firms, 80% of which employ 30 persons or less.

There is no doubt as to the urgent need for investment in environmental infrastructure. As you well know, Mr. Chairman, there are countless examples of deteriorating sewage treatment plants and other water facilities throughout this country that need immediate attention. A recent assessment completed by the Environmental Protection Agency (EPA) best illustrates this situation. According to EPA, there are currently 12 billion dollars worth of sewage treatment facilities alone that are needed and "ready to go." Of that twelve billion, Mr. Chairman, over \$136 million worth of projects alone are located within your home state of Ohio. The needs are obviously astronomical, and government must work to coordinate its efforts with the private

sector immediately through partnering efforts if we are to experience a true revitalization in environmental infrastructure. With the obvious backlog in sewage treatment design and construction projects currently "on the shelf", the private sector must be called into action to provide quality design and construction services. While our firms work closely with many federal agencies they strongly oppose competition from agencies that offer free or reduced price engineering services to state and local governments. Many of our firms are still struggling from the recession and are facing competition from the public sector.

ACEC member firms are intimately aware of the needs of small rural communities for sewage treatment development. But rural communities are caught on the horns of a dilemma. There is no argument that the needs exist. However, the technology and affordability of these facilities are beyond the limited means of these small communities to meet their share of capital costs, as well as operation and maintenance costs.

#### TECHNOLOGY INITIATIVES

The choice of technology for wastewater treatment for small communities is a function of many factors. In rural areas, collection and delivery of wastewater from the residences and businesses to the treatment plant is often more costly to design and construct than the treatment plant itself. The reason is that traditional gravity sewers which must be placed in deep trenches over long distances, sometimes up to twenty or thirty feet deep and the necessary pump stations to lift

sewage over ridges and up to the "head-works" of the treatment plant itself. Furthermore, the length of the delivery system often makes it extremely difficult to identify leaks and problems in the system, resulting in increased maintenance costs.

The design of collection systems which can cost-effectively transport smaller volumes of wastewater over longer distances without increasing infiltration and inflow is a challenge to which engineers have responded with technologies such as low pressure and vacuum sewers. Both systems use small diameter plastic pipe which can be installed in shallow trenches and need not be aligned to ensure gravity flow. Since they are sealed to air pressure, these systems do not increase treatment costs by requiring the treatment plant to handle substantial increases in volume during wet weather. Consequently, the treatment choice is not affected by technologies sensitive to peak load or wet weather flows. ACEC members have designed such innovative systems in small communities throughout the country, and I have included detailed examples of some specific projects in my written statement for the record.

The successful completion of such innovative design projects in small communities in different climates and regions of the country demonstrates that wastewater treatment need not be prohibitive in capital or operating costs. Congress must authorize funding for new demonstration projects as a means to illustrate to smaller communities that these systems are extremely cost effective. Currently, many communities, especially those in rural states, are struggling to build needed waste treatment facilities without sharp increases in user charges.

Some simply may be unable to pay for the needed facilities at all. The use of these systems having innovative technologies will not only result in an initial cost savings, but will also save a large amount of money in the maintenance required on the traditional, outdated systems.

#### THE STATE REVOLVING LOAN PROGRAM (SRF)

The state revolving loan program (SRF) has provided one of the largest and lowest-cost sources of public funds available to municipalities to finance wastewater treatment facilities. It is unique in its ability to provide both funding and jobs, with \$5 billion of Federal funds generating up to 350,000 jobs annually according to the EPA. ACEC actively supports the reauthorization of this program by Congress. However, administrative burdens imposed by the Federal government within the SRF program increase facility costs, discourage participation by small cities, delay construction of projects and reduce the ability of states to set their own priorities. These are problems that must be closely examined during the reauthorization process.

ACEC believes that Congress must take a special look at the wastewater treatment needs of small communities and their relationship to the SRF. All too often, small cities and rural towns lack the sophistication needed to participate in the SRF. Many are not able to compile the necessary share of the state funds. Others make the effort to apply for funds too quickly only to discover that excessive Federal requirements make participation in the program undesirable. For example, in the West and Midwest, many small cities are outside metropolitan areas. Yet

to participate in the SRF, they must adhere to federal wage rates under the Davis-Bacon Act. These rates add up to 30% to the cost of a project during construction. As a result, these communities can't afford to do much more than make the most minimal improvements to their systems without Federal assistance. Since large cities generally have higher wage rates and are economically more aggressive, they have been able to claim almost all of the SRF funds.

Small communities could be helped through Administrative remedies such as:

- ◆ easing of Section 201 planning requirements for small cities. Currently, these restrictions on funding collectors and combined sewer overflows hinder project design and construction as well as job creation,
- ◆ simplifying and streamlining the application process, exempting small cities outside of a Standard Metropolitan Statistical Area from Federal regulations such as the Davis-Bacon Act, and
- ◆ allowing small communities to use alternative technologies instead of traditional secondary treatment facilities. Technologies involving constructed wetlands and natural ecosystems can be employed to provide a much higher level of wastewater treatment than currently exists . . . and it can be done at lower capital and operational costs than traditional plants. For example, in 1991, ACEC gave an engineering excellence award to a member firm, CH2M Hill, for the innovative use of a wetland as a secondary treatment in South Carolina.

GRANTS

Last year, EPA provided \$300 million in direct grant assistance to five major coastal cities. We are aware of the pre-existing conditions in those cities and EPA's reasons for applying direct assistance. In fact, some of our member firms helped to design systems to address those wastewater needs. We are concerned, however, that a precedent is being set for the future . . . one that might favor new grants over the SRF. Grant mechanisms are already in place and working within the Farmers Home Administration, the Department of Housing and Urban Development (HUD) and others. We strongly advocate that Congress resist the urge to establish additional grant systems and instead adequately fund the SRF programs.

REBUILD AMERICA COALITION

In closing, Mr. Chairman, I would like to tell you what we've been doing to help solve America's infrastructure problems. ACEC is a founding member of the Rebuild America Coalition which includes 57 public and private organizations committed to the infrastructure challenge. Current Chairman Mayor Maynard Jackson of Atlanta is volunteering his time to help focus public attention on innovative ways to finance the refurbishment of this nation's deteriorating infrastructure. The Rebuild America coalition has proposed a plan for rebuilding our nation that focuses on short-term economic growth stimulus as well as a long term

rehabilitation effort to foster sustained economic growth and productivity improvements for our nation. This plan for rebuilding our nation that has been presented to President Clinton and is also included in my written statement for the record.

Thank you for the opportunity to present testimony on behalf of the American Consulting Engineers Council. We appreciate your recognition, Mr. Chairman, that rural sewage treatment is a necessary public good and a vital element of public trust in government. We would welcome the opportunity to provide assistance and support to you and your subcommittee as you work to ensure that America's future water needs are met. I would be happy to answer any questions.

# REAUTHORIZATION OF THE FEDERAL WATER POLLUTION CONTROL ACT

(Sewage Treatment Needs of Rural and Small Communities)

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WEDNESDAY, FEBRUARY 24, 1993

HOUSE OF REPRESENTATIVES, SUBCOMMITTEE ON WATER  
RESOURCES AND ENVIRONMENT, COMMITTEE ON PUBLIC  
WORKS AND TRANSPORTATION,

*Washington, DC.*

The subcommittee met, pursuant to recess, at 10:05 a.m., in room 2167, Rayburn House Office Building, Hon. Douglas Applegate (chairman of the subcommittee) presiding.

Mr. APPLGATE. If everybody would take a seat, I welcome all of you to the second of two days of hearings on the sewage treatment needs of small and rural communities.

Yesterday we heard testimony which focused primarily on the national perspective and funding alternatives, such as recreating a grants program and liberalizing the State revolving funds, to encouraging alternative technologies and other things.

Today we are sharpening our focus and looking at this issue from the State and local perspective so as to try to better understand how our actions here in Washington are viewed by the people who have to implement them and live with them.

Following these hearings we will be scheduling further hearings on other issues related to reauthorization of the Clean Water Act.

We have the benefit of an extensive record compiled by last year's subcommittee, under Chairman Henry Nowak, who I would like to compliment because he did a tremendous amount of work that will be of great benefit to us and will eliminate a lot of the unnecessary additional hearings we may have to go through once we have been able to filter through all that Henry and his subcommittee were able to do, and we will hopefully be able to put together a piece of legislation that will be acceptable.

Before we hear our first witness, I am going to recognize my very distinguished colleague and ranking member, Mr. Boehlert.

Mr. BOEHLERT. Thank you, Mr. Chairman. I would like to join you in welcoming everyone to the second day of hearings on the sewage treatment needs of rural and small communities.

Yesterday's hearing laid out the scope of the wastewater treatment problems facing America's small towns, and hopefully today's hearing will lay out what steps need to be taken on the Federal level to address this dilemma.

During the 1970s and 1980s we embarked on the second largest public works program in our Nation's history. In the two decades following enactment of the Clean Water Act, roughly \$75 billion has been spent on constructing wastewater treatment facilities in all of America's major cities. Our success in making more of the Nation's lakes and rivers and streams fishable and swimmable has been quite impressive. This success is even more poignant when one considers the growth our Nation has experienced, both economically and in population.

However, the time has come to readjust the Clean Water Act to meet the challenges of the 1990s. Small communities and nonpoint source pollutants are now by far the greatest source of America's water pollution problems. As I believe today's hearing will demonstrate, the health of large cities is directly linked to the wastewater treatment problems facing rural communities.

As the Congressman representing a substantial portion of the watershed for the New York City water supply, I have seen firsthand how the wastewater treatment of small rural towns can impact the lives of millions of city dwellers. Too often, the wastewater treatment problems of small communities are considered a low priority. We must now realize that the water pollutants discharged in rural areas carry costs for all of us.

Mr. Chairman, I look forward to hearing from this morning's witnesses on what is emerging as one of the greatest environmental and infrastructure challenges of the 1990s, rural wastewater treatment.

Thank you.

Mr. APPLEGATE. Mr. Hayes?

Mr. HAYES. Good morning, Mr. Chairman. I just want to say that yesterday, when Jill Long of Indiana testified, this place was packed with her colleagues, which is a testimony to her competence and her popularity in the House. Today once again, with Mr. Synar, I feel that there is a similar testimony to his popularity in the House and his competence. [Laughter.]

Mr. HAYES. Thank you, Mr. Chairman.

Mr. APPLEGATE. I shall not comment on that.

Anyway, we are very fortunate to have with us a very distinguished colleague. I am very happy to have him here for his very worthy expertise. He is very representative of what it is that we are talking about. He comes from a rural area around Muskogee, Oklahoma, and is the son of a rancher, but he has also been in Congress since 1978 and is one of the most active members of the Committee on Energy and Commerce and the Committee on Government Operations.

Mike has always been one of those people who has never been afraid to take on some of the tough issues; maybe not altogether popular, but he does it with conviction and commitment, so he is very much respected for that.

We are looking forward to hearing what he has to say today.

Mike?

**TESTIMONY OF HON. MIKE SYNAR, A REPRESENTATIVE IN  
CONGRESS FROM OKLAHOMA**

Mr. SYNAR. Thank you, Doug.

First of all, I'm going to regret that I recruited Jimmie Hayes to come on my subcommittee over in Government Operations. I can already see that. [Laughter.]

I will be very brief.

Let me thank you for the opportunity to be here. What I would like to do is outline what I believe are some issues that deserve some scrutiny.

Not only do I represent a rural area, but as chairman of the oversight committee for EPA, I have been intimately involved in a lot of issues, including the Clean Water Act and other environmental statutes, and how they affect rural America.

First, let me say that we need to reinstitute the tailored grant program you heard about yesterday to help small, underfunded communities meet their wastewater needs. The State revolving funds that I think you heard testimony about yesterday have been very successful but, by and large, the rural communities have really been unable to take advantage of the Act's funding assistance because most of the money has gone to larger areas.

According to EPA, almost \$60 billion has been spent since 1956 on construction grants, and only 10 percent of that, or \$6.1 billion went to small communities of under 3,500 residents. Only 20 percent of it went to communities of under 10,000. So you can see that even with the help of the Farmers Home Administration and the USDA's Rural Development Administration, communities are finding that they cannot afford to make needed system improvements.

This funding dilemma has put, as I think you learned yesterday, these communities between a rock and a hard spot. Lack of funds leads to noncompliance with the Act, and that in turn leads to enforcement actions and penalties. Rural areas are really in a Catch-22.

Second, Congress should develop specific provisions to help Indian Tribes comply with the Clean Water Act. We know now that the requirements and the needs of the Tribes are somewhere between \$578 million and \$688 million, according to EPA, and yet a 1989 EPA report found that only \$25 million had been spent on Clean Water Act assistance to Native Americans.

Third, Congress should realign its funding priorities to more accurately reflect the risk to the public. For example, little, if any, money has gone to assuring that the Nation's drinking water infrastructure is sound. I think it's time that we rethink that, and also rethink where we put our money. It is clear that States and systems need more flexibility so that they can perform the job which we've asked them to do.

Finally, I think we should expand the Clean Water Act's provisions dealing with nonpoint sources of pollution. As you all are aware, nonpoint pollution accounts for about 50 to 60 percent of what enters our waterways, but this area has been largely unregulated for the last 20 years.

The agriculture sector is the major source of nonpoint pollution. I think that all of us who have been in Congress for any length of time know that we've been avoiding this subject for a long time. However, I think a recent poll gives us a reason to think we can do this now. According to a Gallup Poll conducted for the Sandoz Co., 92 percent of U.S. farmers say they are likely to use safer pes-

ticides in the future, and 71 percent say they are likely to use fewer pesticides. Farmers really want one thing, and that is adequate and reliable information on the kinds of practices that will protect their water and save them money. I think those poll numbers indicate that farmers will respond and they will help us accomplish the task that we all have.

Again, thank you for the opportunity to be here this morning. I think these are excellent hearings on a subject that obviously is dear to the heart of many people, not only in the Congress but throughout the country.

Mr. APPLGATE. Thank you, Mike. I appreciate your statement and what you have to say, and I think you have really helped to set the tone. You have zeroed in on some very key problems that we have.

Let me ask, there has been talk of a risk to the public health and environment of the various pollution problems; and you, of course, are chairman of the very key subcommittee that has oversight jurisdiction over the EPA. How would you rate the environmental risk of the failure of small communities to meet the Clean Water Act requirements?

Mr. SYNAR. Well, I think that under the present rules and regulations we're going to find that most communities can't meet the standards in regulations that we've set. Is that a risk to public health? The answer to that is no, and that is exactly why we have to rework the way we approach rural communities with respect to this issue.

For example, in the Safe Drinking Water Act arena we are going to have to look at what the most likely contaminants in a water system are and say that those are the ones that we should be particularly interested in, and not ask some small community of 10,000 or less—or 3,500 or less—to try to run a water system the size of Chicago when they don't have the expertise or the people necessary to do the extremely detailed and complex sampling and monitoring that the act requires.

Similarly with the Clean Water Act we have to have a reality check here that once you get outside of the small communities of, let's say, 5,000 and up, that we lack the resources, the talent, and the expertise necessary to do it, and that all of us who believe that clean water and safe drinking water are critical and should be a priority also realize that we don't have to run systems the size of Chicago to ensure that to the public.

Mr. APPLGATE. Do you agree that alternatives—do you think that going back to the utilization of septic tank systems and all is a direction by which we could go to help rural areas?

Mr. SYNAR. Yes. The answer is yes, and clearly less costly alternatives that still ensure protection of public health and the environment have to be used if we're going to ensure that we have clean water.

Mr. APPLGATE. I know that in my area—and I have the same problem; I have a very rural area, and a lot of those septic systems just are not good. What do you think the problem is with that kind of a system today? How can it be improved?

Mr. SYNAR. First of all, giving the necessary monies down to the local community to upgrade the systems, particularly in the infrastructure area. That would be first.

Secondly, putting the goals down to a level that could be achieved. When we are trying to make small communities do everything without the necessary resources, they throw up their hands in frustration and do nothing. If we get our scope to where we really know what we can accomplish, then I think communities will embrace these types of things and take steps to accomplish reachable goals. We can upgrade systems and avoid problems that we have faced in the past with antiquated systems.

Mr. APPLGATE. I know the Chairman was here yesterday and talked about the technology that is being achieved today to find out the amount of pollution and what can be removed, the measuring aspect of it, like so many parts per million, then it gets into billion, then a hundred billion, and who knows, maybe so many parts per trillion, and the technology just simply isn't able to keep up with it. But that's what we measure everything by. It's becoming almost impossible for us to be able to achieve those reductions. If we're getting down to so many parts per trillion, I don't know where we're going to get the money to put in the kind of technology—or even gain the technology—to achieve that kind of a measure.

So anyway, that's just something I would throw in. I think it's very important.

Mr. Boehlert?

Mr. BOEHLERT. Thank you, Mr. Chairman.

Before anything, Mr. Hoekstra is here and he has a statement that he would like inserted into the record.

Mr. APPLGATE. Without objection.

[Mr. Hoekstra's prepared statement follows:]

February 24, 1993

STATEMENT BY CONGRESSMAN PETE HOEKSTRA (R-MI)  
FOR HEARING ON SEWAGE TREATMENT NEEDS OF SMALL  
COMMUNITIES BEFORE PUBLIC WORKS AND TRANSPORTATION  
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT

Thank you Chairman Applegate and Ranking Member Boelherth for focusing our attention on the sewage treatment needs of rural and small communities. As we prepare to reauthorize the Clean Water Act in the days ahead, it is important to determine how well the existing water law is working, what changes in the law should be made, and what role the federal government should play in providing funding for wastewater treatment projects.

In preparation for this hearing, I talked to local officials from a number of small communities in my district regarding their sewage treatment needs. While each community has specific, individual needs and concerns, all agree that financing water treatment projects presents the biggest problem for them. Undeniably, wastewater treatment improvements require substantial capital investment. Without federal grant funds or low-cost loans, small, rural communities cannot afford to implement the programs necessary to comply with the Clean Water Act.

Local officials from the Grand Haven-Spring Lake Sewer Authority, as well as Manistee, Ottawa and Muskegon Counties, have emphasized the need for a long-term wastewater treatment plan, based on what is environmentally achievable and sustainable, rather than what is technologically possible. Constantly

changing regulations and standards create a heavy economic burden for smaller communities. For example, one local official expressed concern about costly sewer separation projects and strategies to stop pollution caused by overflows from sewer systems. According to the official, in the next decade, his community will have spent over 10 million dollars to separate its sewer system. The official is concerned that once the system is separated, the federal government will impose new regulations requiring the treatment of all storm water runoff. These new regulations could require the community to spend millions of dollars to recombine the sewer system with the wastewater treatment facility. Long-term planning could minimize or eliminate problems like this in the future.

Local officials also have expressed the need for more flexible and regionally based guidelines, rather than a uniform national standard, when designing CSO control and other wastewater treatment strategies. Greater flexibility for small communities would help reduce some of the costs of compliance with the Clean Water Act and would provide for regulations that meet the specific needs of each region. Additionally, state and local officials have requested increased funding for the Clean Water Act's State Revolving Loan Fund (SRF). In a recent letter to President Clinton, Governor Engler noted that Michigan could readily use \$141 million in additional SRF funds for 1993 and 1994. Programs like the SRF are essential to the preservation of the Great Lakes and Michigan waterways.

I look forward to hearing the witnesses' testimony and to learning how we can better assist small, rural communities to meet their wastewater treatment needs. I also respectfully request permission to insert statements from local officials in my district into the hearing record. Thank you, Mr. Chairman.

Company <i>Karen Block</i>		Friend <i>Jim Szejda</i>	
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## County of Ottawa

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February 22, 1993

Ms. Karen Block, Legislative Counsel  
Congressman Peter Hoekstra's Office  
Congress of the United States  
House of Representatives  
Washington, D.C. 20515-2202

Re: Statement By Mr. James Szejda, Supervising Sanitarian,  
for Hearing on Sewage Treatment Needs of Smaller  
Communities-House Subcommittee on Water Resources

Thank you for the opportunity to provide input into this very important issue. I consider it an honor to be selected to provide these comments.

Many small communities in relatively rural areas do not have access to municipal sewer and/or water service. The homes and smaller businesses which make up the structure of these communities must depend on on site septic systems and wells therefore, for their sewage disposal and water supply needs. Because many of these communities were constructed long before sanitary and well codes were in existence the soils and water supplies they must utilize for these septic and water supply systems may be far from acceptable under present standards. In many instances, the sewage from these structures was purposely directed to storm drains and ditches to carry the problem away from the immediate community. Therein lies the problem that must be dealt with today. In many of these communities the smaller sized lots and the heavy clay soils will not support a conventional septic system and a failing system or a system previously directed to a storm drain/roadside ditch cannot be corrected on site. This situation then presents a severe problem should a complaint be lodged against the offending homeowner or should the homeowner wish to sell this structure. For example:

1. Community "A" was constructed in the early 1900's on heavy clay soils as a farming community. Because of the lack of sanitary codes, the sewage from the community was directed to the storm drains and delivered to a nearby wetlands area

Karen Block  
Page 2

2. Later, Ottawa County created a County Wide Sanitary Code which made this practice illegal. Open disposal of sewage is a very dangerous practice.
3. For the purpose of protecting the public health, this sanitary code contains a clause which requires all structures to be evaluated (septic and water supply) prior to sale. This evaluation serves to advise all purchasers of the condition of these systems prior to transfer of ownership as well as attempt to ensure correction of problem systems prior to sale. Also the majority of loan institutions voluntarily will not allow funding to be transferred without ensuring that these systems are acceptable.
4. A request is received to evaluate a home in Community "A" and the sewage system is found to be drained to the storm drainage system and subsequently to an area of wetlands located north of the community. A review of the lot indicates that on site correction is impossible because of the unacceptable soils or well isolation requirements. The county health department sanitarian must disapprove the system therefore, and the homeowner is not able to sell his home because the purchasers lending institution will not provide financing.

At this point the homeowner and perhaps other homeowners in the community turn to the township to ascertain what can be done to correct the problem. The township will then attempt to determine if there is sufficient interest to pursue correction of the problem on a community wide basis. If so, a consultant is usually retained to develop an engineering plan for a small community sewage system and to determine if some type of funding is available to provide assistance. If federal grants or low interest loans are available, the problem usually can be corrected, if not, the problem will continue to exist causing severe hardship to the residents as well as continue to pollute the wetlands.

My recommendation therefore, is to continue to provide some type of financial assistance to communities in this type of need. The public health as well as the wetlands in this particular situation would benefit greatly by this funding.

Karen Block  
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This particular situation that I have defined by example above, does exist. The community is Conklin, Michigan and this funding would not only provide assistance to this community but also to the residents surrounding Crockery Lake.

Again, thank you for the opportunity to express my opinion on this matter. If I can be of any additional assistance, please do not hesitate to contact me.

Very truly yours,

*James J. Szejda, R.S.*  
James J. Szejda, R.S.  
Supervising Sanitarian



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WRITTEN TESTIMONY

BY

K. BEN BIPOSS, CITY MANAGER  
CITY OF MANISTEE, MICHIGAN

FOR

THE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION  
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT

FEBRUARY 24, 1993

Attainment of established standards for the discharge of effluent from the City's Wastewater Treatment Plant has and will continue to represent the largest capital cost ever confronted by the City of Manistee; eclipsing the cost of building an Industrial Park, a municipal lift bridge, public facilities, roads, etc. by a factor of five or ten to one, depending on various cost estimates.

While hundreds of pages can and have been written on this subject, I wish to make only two points.

1. Effluent limits and environmental standards must be established based on what is "environmentally sustainable"; not on what is technologically possible. An overly simplified example: It is technologically possible to produce effluent the quality of distilled water but distilled water lacks the life giving nutrients and elements required by the environment. Do we adversely affect the environment by reducing effluent standards to a level below that which naturally exists in the environment? Even if the answer is no (a gross assumption based on the current level of knowledge), what benefit is achieved at the cost of additional billions of public dollars by attaining that level?

February 22, 1993

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2. Environmental standards and goals must be long-term, measured in decades and centuries, not elections. A significant factor in municipal reluctance to undertake the enormous capital expenditures required by the federal government relates to the almost certain knowledge that a significant portion of that expense is in vain as the standards will change prior to compliance. What was done will need to be redone or undone when the rules change, billions of public dollars having been needlessly spent.

While the issues are incredibly complex, and while much science is needed to understand the interrelationships of man and the environment, the issues are too important to leave to the scientists. Like generals, scientists must be permitted to fight the battles but Congress must select the wars.

Respectfully submitted,



R. Ben Bifoss, City Manager

RBB:cf

Mr. BOEHLERT. I would like to thank our colleague very much for testifying. It's good testimony and I appreciate that.

Yesterday we heard a mind-boggling story from one witness who pointed out that the construction costs for a wastewater treatment project in one jurisdiction exceeded the total assessed evaluation of all the property within the jurisdiction, which points up the problems that small rural communities are facing.

One of the things that I am concerned about, and your statement indicates that you are too, is that not enough money is going to the small rural communities, so I would assume that you would be in favor of a setaside of a certain percentage that would be earmarked for small and rural communities. My question is, where would the cutoff be? Would it be 10,000 or less? Or 5,000 or less? Where do you think we should do that?

Mr. SYNAR. I'm not sure we need to make that distinction. I think you can define "rural" as 10,000 or less, but I think that we can't forget that the under 3,500 population communities probably have more problems than the 10,000, because at 10,000 they probably have at least some semi-structure of a water program and department there.

So I'm not sure you have to draw that distinction. I think we know where rural America is. The numbers are so skewed that any kind of massaging of them improves the chances for rural areas. That's why the grant program is so critical, because the State revolving funds have done an excellent job and have been very successful. It's just that underfunded rural communities haven't been able to compete for them. That's why a grant program gives those rural communities an opportunity to not only go to the revolving fund, but get the direct grants also.

Mr. BOEHLERT. Well, the other thing, when we're sticking to the revolving fund, in many instances the payback period is too short a time for the communities to handle. So instead of 20 years, would you be receptive to, say, a 30- or 40-year payback period?

Mr. SYNAR. Absolutely. One of the biggest problems we have is bonding, whether or not they have a tax base to do it.

I think the key word here is flexibility—by the regulators, by the EPA, by the Congress—recognizing the difference between rural and urban areas.

Mr. BOEHLERT. Thank you very much. That's the same thing we heard yesterday. The key word is flexibility. We really appreciate your testimony.

Mr. APPLGATE. Mr. Hayes?

Mr. HAYES. Thanks.

Mike, yesterday I filed a bill that deals with grants, and not under Title II or VI of the reauthorization. It's H.R. 1033, and in furtherance of your subcommittee activities I would appreciate it if you would take a look at it. You will see that it is intended to assist rural communities in solving their wastewater treatment needs without imposing unnecessary burdensome regulations.

But I want to ask you a general question. Is it your impression that we could in fact craft a regulatory scheme that differentiates between the burden placed upon urban and rural America to comply with the concept of clean water?

Mr. SYNAR. The answer is absolutely yes. It's really the answer to what I think these hearings are trying to address themselves to. Let me tell you how I've proposed to do it. This approach may be helpful for clean water issues under the Safe Drinking Water Act.

First of all, we find out what are the high risk areas or pollution sources for a community, either because the area has certain industrial activities going on, or certain kinds of agricultural activities that would put them on an alert for certain pollutants, and say that those sources are exactly what we need to target.

Secondly, we don't need to have the kinds of constant and very detailed testing that you would normally have in a big city system; we could do better scheduling. And if we could limit the scope of what communities are trying to look for with the planning on the front end, then the responsibility and the burden is more manageable.

Third, we need to recognize that like in the State of Oklahoma, where I come from, there is one circuit rider for the entire State, which is one of the ten largest geographical States in the country, to serve all the rural areas to help them get the advice and technical expertise, etc. There is no humanly way possible that our rural communities can get up to speed on all the things that are required with just one circuit rider.

As we learned in hearings we had last year in my own district, it's not that there is an opposition at the local level to trying to provide for safe and clean water. Rural communities just want to know how they are supposed to do it, since they don't have anybody on board. When we talk about communities, there is usually no one in a city council or no one working for the city government in a town of 10,000 or less who has the kind of background that we would demand under these rules and regulations. So good planning up front of what we should be worried about, and getting the scope of effort down to where communities can manage it with the talent they have, not on such a persistent and everyday type basis, is really what we ought to try to achieve.

I will look at H.R. 1033. I think it is probably the approach that I have been thinking about for a long time.

Mr. HAYES. The second thing that I would ask, we also have a problem—I'm not sure how you legislate it, but we've got to recognize and prepare for it in clean water—of conflicting mandates. For example, I have communities currently under a mandate from EPA to improve sewage treatment, and under a mandate not to use any site they can think of to do it because it violates section 404 of the Clean Water Act. We've got to find a way to reconcile conflicting mandates because we're making not just a burden, but we're making an impossible condition exist that I don't think could justify the statement that that improved our environment or accomplished any environmental good. The community is already there, it already exists, it already has sewage. It's not going to simply disappear and go away; it's simply going to be in noncompliance. I think we have to have a mechanism by which a small community, which doesn't have a battery of lawyers and isn't a major corporation, to deal with agencies of the Federal Government, can have a simplistic mechanism just to get a resolution of these conflicts, and then go forward in either way they have been directed to go, but

not maintain a box where they are ending up being fined for an impossible circumstance.

Mr. SYNAR. The patchwork of environmental laws that we've put together over the last 25 years have made it impossible for a community not to violate one act while complying with another.

Mr. HAYES. That's right.

Mr. SYNAR. Hope and help are on the way; first of all, with the new creation and structure that the White House has with its Environmental Policy Office, where they can go across lines of agencies, whether it's USDA, EPA, or whatever department is in charge, to bring those together and look at across the board solutions. That's probably one of the major steps that has been taken to improve the chances of that not happening again.

Secondly, EPA Administrator Carol Browner, who I've had a chance to visit with, is absolutely convinced that one of her roles as we move forward in the environmental arena is to bring all these acts together and see what the contradictory natures of them are.

Finally, let's not kid ourselves. With legislation elevating the EPA to a cabinet-level position, there may be opportunities for us to suggest, either through studies or even in the structure of the Department itself, how to avoid these problems in the future. We shouldn't miss that opportunity, potentially, with the EPA cabinet-level legislation that will move through Government Operations, where you serve, to direct some of this.

Mr. HAYES. Well, I appreciate that.

I will make one final observation. I know we are short on time.

That is the observation concerning your point on nonpoint source pollution. I think it is absolutely correct that the farm community, for example, has been frightened of the issue; not because they're not willing to do something, but because they believe they will be handed either a totally unexpected or a totally unachievable burden. I think if we laid the groundwork through your subcommittee and through this subcommittee, we could find that we get a great deal of agricultural assistance on a well thought out program, because I think that the survey that you mentioned in your testimony is correct. Secondly, we might offer them this possibility. I think it's time to quit importing agricultural products that don't meet the mandates that we place upon our farm community, too. I think it's absolutely crucial to their support to say, "Here's the deal. You're not going to use a pesticide, and, guess what? Neither is the country sending it to the supermarket." I think that's a deal that they're more than willing to make, as well.

Thank you very much for appearing.

Mr. SYNAR. As you know, our subcommittee, which you now serve on, has been in the forefront of the "circle of poison" debate, and I absolutely agree that our farmers should not be put at a competitive disadvantage by having products shipped in here with pesticides and fertilizers which we do not allow on our own produce.

Mr. APPLEGATE. Thank you very much, Mike. I appreciate your being before the committee. I think the message is quite clear as to what we heard all day yesterday and from you so far today. I think that is the direction that the committee needs to take, and I think it's the direction the Congress needs to take to help these

small and rural communities meet the mandates that have been placed upon them, and to fulfill what they, too, consider is a responsibility, and that's cleaning the environment.

Mr. SYNAR. Thank you, Doug.

I would ask unanimous consent that my entire statement be made a part of the record.

Mr. APPLEGATE. Without objection, it shall be.

[Mr. Synar's prepared statement follows:]

STATEMENT OF REP. MIKE SYNAR (D-OKLA.) BEFORE THE  
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT  
HOUSE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION  
February 24, 1993

Mr. Chairman, thank you for giving me the opportunity to express my views on the impact of the 1987 Clean Water Act Amendments on small and rural communities. As you know, I represent a largely rural district in northeast Oklahoma. And, as Chairman of the Subcommittee on Environment, Energy and Natural Resources with oversight of EPA and its programs, I know all too well the many frustrations of small and rural communities with great needs but few, if any, resources available to meet those needs. I would like to outline a few issues that I believe deserve increased scrutiny as this Congress tries to assist these troubled areas and begin reauthorization of the Act.

First, Congress should consider reinstating a tailored grant program to help small, underfunded communities meet their wastewater treatment needs. In the 1987 Clean Water Act Congress phased out wastewater treatment construction grants and instead provided federal seed money for the State Revolving Loan Funds. Early accounts indicate that the State Revolving Loan Funds have been very successful and, indeed, should be expanded so that more communities can make needed investments in wastewater and sewage treatment.

But, by and large, small and rural communities have been unable to take advantage of the Act's funding assistance because most of the money is going to larger areas. According to EPA, of the almost \$60 billion spent since 1956 on construction grants, only 10%, or \$6.1 billion, went to small communities of under 3,500 residents. Only 20% went to communities of under 10,000. Even with the added funding assistance provided to small and rural areas by the Farmer's Home Administration and USDA's Rural Development Administration, communities still can't afford to make needed system improvements.

The 1987 Act's phase-out of grants has put small communities in an even bigger bind. They don't have the resource base to pay back the loans taken for upgrading their systems. Banks won't lend these communities the money, and the municipalities are either unable to issue bonds or don't have a sufficient tax base to pay for the improvements even with bonds.

Worse still, this funding dilemma has put many communities between a rock and a hard place: lack of funds leads to non-compliance with the Act, which in turn leads to enforcement actions and penalties. Placing small communities in this "Catch-22" and then saying that problems will be solved with enhanced enforcement is simplistic and unfair. I suggest that Congress seriously consider re-instituting a limited grant or tailored set-aside program for these small underfunded systems. Otherwise, we may leave them eternally in this Catch-22.

Second, Congress should develop specific provisions to help Indian Tribes comply with the Clean Water Act's requirements. The wastewater treatment needs of Native Americans are tremendous, and up to now their situation has been largely ignored. For example, a 1990 EPA report noted that somewhere between \$578 and \$688 million would be required to address Tribal wastewater treatment needs. Yet, a 1989 EPA report found that only \$25 million had been spent to help the Tribes and the Alaska Native Villages build wastewater treatment plants. The Tribes face problems similar to those of small communities because they too lack the resources necessary for repaying loans. I urge the Committee to include specific provisions to assist Native Americans in ensuring their water is clean. Enabling small, rural and Native American systems to construct needed wastewater treatment plants would have a direct and beneficial impact on jobs and the economy and would benefit the environment.

Third, Congress should realign its funding priorities to more accurately reflect risk to the public. For example, EPA rates drinking water as one of its top five exposure risks. And, although \$60 billion has been spent upgrading this Nation's wastewater treatment infrastructure, little -- if any -- money has gone to ensuring that the drinking water infrastructure is sound. More and more evidence indicates that in many areas, old lead service lines are causing serious contamination problems and health risks to our children. And too many people rely on untested, minimally treated well-water for their drinking water needs.

Small and rural communities, especially, feel the lack of investment in our drinking water infrastructure. In 1990, representatives from the U.S. General Accounting Office (GAO) reported to my Subcommittee that the vast majority of systems in non-compliance with the Safe Drinking Water Act were small underfunded communities. These smaller communities, and their citizens, are struggling to meet the much more stringent monitoring and testing requirements of the 1986 SDWA amendments. But they tell me they would rather spend that money on needed capital improvements for their systems than on unnecessary testing for contaminants that they are unlikely to find.

I agree with them that improving infrastructure is a better investment of their very limited resources. So I plan to reintroduce legislation in the Energy and Commerce Committee to assist with some of these problems. They are right about one thing: we have not sought to invest in America's deteriorating drinking water infrastructure and it is time to re-think where to put our money. States and water systems need more flexibility to tailor their compliance efforts to address the real and most pressing threats to their water supplies and to make the best use of their scarce financial resources.

Finally, Congress should expand the Clean Water Act's provisions dealing with non-point sources of pollution. Non-point source pollution accounts for 50-60% of what enters our waterways, but it remains largely unregulated after 20 years. While we have made good progress in reducing pollution from specific point sources, the non-point source pollution problem has grown significantly. The agricultural sector is a major source of non-point pollution. Urban centers also have significant non-point pollution stemming from problems like stormwater runoff and combined sewer overflows.

This is not an easy issue to deal with, and Congress has been avoiding it for some time. But it is clear that the issue is now ripe for consideration. A recent poll conducted by the Gallop Organization for Sandoz Agro, an agricultural chemical company, found that U.S. farmers see water quality as the most serious environmental problem they face. The poll found that 92% of U.S. farmers are likely to use safer pesticides in the future, and 71% are likely to use fewer pesticides. These numbers bear out what I have been saying for a long time: if you provide farmers with adequate and reliable information on the kinds of practices that will protect their water and save them money, they will listen and respond.

In my view, the key to cleaning up non-point pollution is use of market-based strategies and not relying solely on command and control regulation. Better coordination within EPA and between EPA and other Federal entities with jurisdiction over non-point source pollution, such as USDA, is critical. Our farmers and cities need technical expertise and guidance from the government. A more focused Federal effort on the non-point problems facing rural communities could result in significant progress without requiring substantial additional resources. Congress and the various interests must work together constructively in addressing this unavoidable issue.

Mr. Chairman, thank you again. I offer my assistance in addressing these important problems and I look forward to working with the Committee as it reauthorizes the Clean Water Act.

Mr. APPELEGATE. At this point I would like to call up the first panel. If you would, please, come up and take a seat at the table:

Greg Smith, Chief of Environment and Financial Assistance, Ohio Environmental Protection Administration; Robbie Savage, Executive Director, Association of State and Interstate Water Pollution Control Administrators; Keith Porter, Director of the New York State Water Resources Institute; and Dale Givens, Assistant Secretary, Office of Water Resources, Louisiana Department of Environmental Quality.

I think we will begin by hearing Ms. Savage.

**TESTIMONY OF ROBERTA SAVAGE, EXECUTIVE DIRECTOR, ASSOCIATION OF STATE AND INTERSTATE WATER POLLUTION CONTROL ADMINISTRATORS; GREGORY SMITH, CHIEF, ENVIRONMENT AND FINANCIAL ASSISTANCE, OHIO ENVIRONMENTAL PROTECTION ADMINISTRATION; KEITH S. PORTER, DIRECTOR, NEW YORK STATE WATER RESOURCES INSTITUTE; AND J. DALE GIVENS, ASSISTANT SECRETARY, OFFICE OF WATER RESOURCES, LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY**

Ms. SAVAGE. Thank you, Mr. Chairman, and congratulations on your appointment to the subcommittee. We in the States look forward to having the opportunity to work with you and the new leadership of this subcommittee.

My name is Robbie Savage. I'm the Executive Director and Secretary and Treasurer of the Association of State and Interstate Water Pollution Control Administrators. I would like to thank you very much for including us in this testimony this morning. Since I have had the opportunity to work with your fine staff since 1979, Mr. Chairman, I would like to thank you and your staff for including us. They're an excellent bunch to work with, and I thank you very much for allowing us to be here.

As you are well aware from the passage of the 1987 amendments, the State revolving loan fund was created to supplement the program that was being eliminated by the Reagan Administration. In a meeting with Mr. Stockman very early on in that Administration, he indicated to us that we had better look for an option to the grants program. Within the context of the Reagan Administration he intended to kill the construction grants program.

The States then worked with this committee and subcommittee, as well as the Senate, to look for options to supplement the grants program and provide funding for the Clean Water Act. Particularly the construction of wastewater treatment facilities. The result of those discussions with this committee and others, was the creation of the State revolving loan funds. We consider that to be a tremendous success, with all 50 States currently managing a State revolving loan fund. This is a tremendous achievement by the 50 States considering the time frame that we had to put this program into place.

It is often suggested that the State revolving loan fund does not adequately or appropriately deal with small communities. We would indicate to you that while that statement can certainly be justified in some instances, the States, through a survey that our association has completed recently, have indicated that they are

currently tracking 17,000 small communities with populations under 5,000. Of those, 49 percent will be requiring some level of construction over the next 10 years. Either for water quality, public health, violations to avoid some kind of litigation, or to achieve secondary or better treatment.

It is also important to note, Mr. Chairman, that 33 percent of the SRF projects are currently in small communities, and that 50 percent of our small communities either have supplemental funding or have received technical assistance from the States to meet their water quality requirements.

We believe that accommodation of small communities is appropriate through legislation, but that any accommodation of such small communities would look not only at their size but also at their fiscal condition, i.e., hardship. There are communities within this country that are small but that are very, very wealthy and do not need assistance from the Congress and from the Federal Government to meet their environmental requirements.

We would also like to use this opportunity to streamline and make more efficient, the SRF program. We would like to use the small communities as our guide and model, the SRF program—if you will, “one stop shopping.” The last thing we need to do in accommodating through SRF our small communities is to make the program any more complicated than it currently is. This would indicate to us that we need to look very closely at the Title II grants requirements. I will emphasize again that the requirements of Title II of the Clean Water Act were instituted for the construction grants program. We’re in a very different mode now, and we need to be looking at eliminating or streamlining a number of those.

We also need to provide funding, technical assistance, and blend principal subsidies with the SRF. In essence, forgiveness of debt in some situations. We also need to provide the States with some flexibility to address the individual needs of our small and hardship communities.

We most definitely need to fund the State revolving loan fund at a \$5 billion level. This was recently presented to the President by the Nation’s governors at their meeting two weeks ago.

We would also suggest elimination of the 20 percent setaside. We thought that was quite a gift back in 1986 and 1987, but that 20 percent setaside restricts flexibility of the governor to fund such projects as combined sewer overflow, stormwater, nonpoint, and others. We also might want to look at a 40-year repayment opportunity, some streamlining of the audit provisions, and a reevaluation of how we apply the innovative alternative technologies. The States met just last week to again reaffirm their opposition to the creation of a new grants program and they are very supportive of the President in his elimination of the construction grants program under his package.

We are very pleased with the context of the stimulus package—obviously, since it begins to address the needs of clean water. It provides us an opportunity to truly evaluate our State revolving loan fund. To make some enhancements, to streamline our program, and make it ever more efficient. We do, however, need to make sure that in that process of evaluation and in taking this opportunity seriously, that we do not make our program more com-

plex. Either for small communities or the base communities out there.

So I would say, Mr. Chairman, that this is a wonderful opportunity to follow through and simplify.

Thank you, sir.

Mr. APPLGATE. Thank you very much for some very excellent testimony.

Ms. SAVAGE. Thank you.

Mr. APPLGATE. We will go to Mr. Smith.

Mr. SMITH. Mr. Chairman, members of the subcommittee, I am Greg Smith. I am Chief of the Division of Environmental and Financial Assistance at the Ohio Environmental Protection Agency, and I appreciate the opportunity to appear before you here today on behalf of the State of Ohio to provide comments about the needs of small towns and rural areas in meeting Clean Water Act requirements. We commend your decision to focus on this important aspect of municipal water pollution control.

It is an important aspect because, although the needs of small communities have been widely recognized, they pose some of the greatest challenges which have been presented by our country's clean water goals. Most importantly, these needs have not been adequately met up to this point by the States or by the Federal Government.

As you receive testimony on this issue, witnesses will present various statistics throughout your hearings to demonstrate that small communities are in need of assistance. I respectfully submit that the challenge before us now is to go beyond the data about small communities and jointly devise substantive strategies which are comprehensive and effective in meeting the interests of those small and rural communities which we serve.

The statistical information that I will present today regarding the need for small community assistance is a summary of the results of a municipal needs survey that was conducted by our agency this past summer. The survey data are a compilation of the needs identified for small community wastewater treatment improvement projects that have been contained in various documents either prepared by small communities or by others for them.

These estimates show a combined construction cost of \$1.1 billion for Ohio communities which have populations under 10,000. I must also point out that since these estimates are derived only from reported construction needs, in all likelihood they underestimate the magnitude of small community construction needs in our State.

The survey information also gives us some indication about the nature of small community wastewater treatment needs. As you can see, most of the facilities improvements that are summarized in the table I have provided are for project types which provide basic levels of wastewater collection and treatment. A relatively small percentage of the costs in each category is devoted to attaining advanced levels of treatment. This observation coincides with our experience, that much of the expense for small community facilities in our State is dedicated to preventing sewage from escaping to the environment, and to providing the most basic levels of treatment. Thus, the most immediate small community needs are not to provide minor increments in pollution removal, but are more

to provide protection of public health and a basic level of quality of life for our small community and rural residents.

Why aren't more of these projects coming forward for financial assistance? Unfortunately for small towns with limited technical and administrative expertise, undertaking almost any wastewater treatment project is an intimidating experience. Also, they know it will be expensive, and in many cases it is not only politically unpopular but it poses a genuine financial hardship to many segments of the community.

These very real limitations inhibit local officials from taking steps to address their treatment needs.

The options available to help them overcome these obstacles are also limited. There currently is no single source of help where small, economically-distressed communities can find the broad range of assistance that they need.

In Ohio, some agencies provide partial funding through grants, but usually the community itself must try to paste together a satisfactory package of grants and loans to make an affordable project, often from three or more different funding sources. These different sources have different requirements; they have different objectives; and they have different application periods. The community is left to assemble, and then preserve, this fragile collage of financing in order to make a project financially feasible.

Most sources of financial assistance do little more than provide funds. Communities receive little guidance on how to help the community develop its project so that it effectively meets the community's needs. Often, small communities need help in identifying appropriate project alternatives which have the right combination of operability and cost-effectiveness for their special circumstances. Also, we find that many community officials appreciate suggestions regarding how to establish user fee systems, sewer use ordinances, and operation and maintenance programs for their facilities.

Beyond financing for affordability, the community's ability to successfully implement these administrative elements will determine whether their system will successfully perform after it is built. Individual guidance and assistance for these items is also very difficult for small communities to obtain.

In Ohio we have attempted to fill these small community needs. We have informal coordination among financing agencies to focus financing resources on a specific number of projects. Our SRF also emphasizes technical and administrative assistance, as well as financial assistance. Within the 18th Congressional District the SRF has made loans to eight communities and has provided various levels of technical assistance to all of those.

But even with these efforts, we believe that the SRFs will continue to be prevented from becoming the full service assistance vehicle that small and rural communities need unless Title VI is comprehensively redesigned. We are therefore proposing that the Congress reconstruct the SRFs to better accomplish the goals of the Clean Water Act and to meet the needs of our client communities. We are calling for a second generation SRF for two reasons. First, the needs of small, economically-distressed communities are not adequately served by the present structure. With the support of Congress the SRFs can do more, and they want to do more, to

make wastewater improvements for small communities of high economic need affordable. If we are to enact a truly community-centered approach to financial assistance, we must have a positive and effective mechanism to do so.

Second, our Governor and our Director have set a standard for the Ohio EPA to be assistive rather than regulatory as a first resort in achieving our mission of protecting the environment. Nowhere is that philosophy better embodied than in our SRF program. We have abandoned the construction grants command and control methods, and now we seek to accomplish water quality objectives through comprehensive community assistance rather than compliance and enforcement.

I believe the SRFs are the best vehicle with which to pursue that philosophy, and that this philosophy is necessary, particularly for our relationship with small, economically-distressed communities. If the Congress can agree on this approach, then we call upon you to empower us as States by giving us adequate mechanisms to do this.

The SRFs must be rebuilt to comprehensively accommodate small communities.

In view of the above, we respectfully set forth the following general recommendations.

First, allow SRFs to provide principal subsidies which can be blended with SRF loans to achieve State-determined levels of project affordability, subject to means tests.

Second, establish specific authority and funding in Title VI for the States to institute outreach programs for small communities to provide technical, administrative, and financial assistance.

And third, in coordination with the States, redesign all project-level requirements and limitations which apply to small community SRF projects so that these requirements are responsive to small community needs first; and then, afterwards as a second priority, to meet only the most compelling Federal interests.

In the interest of time I will defer elaborating on these recommendations, but we will be pleased to provide the subcommittee with a more specific list of recommended changes.

Mr. SMITH. I want to thank you once again for the opportunity to appear here today. The Ohio EPA stands ready to help the committee in any way we can as it continues its deliberations on this issue.

Mr. APPLEGATE. Thank you very much, Mr. Smith.

I will recognize Mr. Givens next.

I would like to say first that your entire statements will be made a part of the record, and that perhaps in trying to help with the time—we may not have all the questions and you may not have all the answers right now, but we may be submitting questions to you at a later time.

Mr. Givens?

Mr. GIVENS. Mr. Chairman, members of the committee, good morning. My name is Dale Givens. I am the Assistant Secretary for the Office of Water Resources of the Louisiana Department of Environmental Quality.

The purpose of my testimony this morning is to explain the problems we face in Louisiana with trying to get rural communities into

compliance with Federal and State environmental regulations concerning sewage treatment.

Improperly treated or untreated discharges of sewage are a significant cause of water pollution and can be a source of human health problems for those who use the water bodies that receive the wastewater. As you are aware, proper treatment and disposal of sewage is required by regulations of the U.S. Environmental Protection Agency. The State of Louisiana also has similar regulations, since we are currently a nondelegated State. While designed to protect human health and the environment, these regulations often result in the need to construct expensive waste treatment systems and supporting infrastructure, such as collection systems to transport the wastewater to the treatment facility. Wastewater treatment needs surveys have indicated the need for facilities and collection systems at a cost in excess of \$1 billion in Louisiana.

Financing projects that require major expenditures of capital can be very difficult for large cities that have a significant tax base. Financing such projects by rural communities that have a very limited tax base can be all but impossible. In addition to tax dollars, funding for these types of projects is usually limited to funds from one of the following: State revolving loan fund, community development block grants, and Farmers Home Administration, which has a loan program and limited grant capability for poor communities.

The SRF loan program is providing critically needed funding to both large cities and smaller cities and towns. However, constraints placed on the program by Federal regulations make it very difficult for some communities, large and small, to obtain funds from this program, such as the Title II requirements, affordability, etc. Many communities simply cannot afford a loan from this program, even though Louisiana has recently established an interest rate of 2.95 percent for these loans to try to make them more attractive.

The CDBG program is often turned to by small and rural communities for funding for wastewater treatment projects. In fiscal years 1992 and 1993, 57 communities applied for CDBG funding for wastewater treatment projects. Only 10 of these were funded, or approximately 18 percent. Currently the program, in Louisiana at least, has a cap of \$750,000 per project.

As more communities attempt to come into compliance with environmental regulations, the demand on this source of funds will increase and the program currently cannot keep up with the needs at the present funding rate.

The Department of Environmental Quality assists the State Division of Administration with the CDBG program by ranking proposed projects each year. To try to make that more practical for the rural communities, factors used in determining the ratings include affordability, enforcement history, and environmental or health impact. In order to attempt to help the smaller communities, this year DEQ modified the factors used to rank the projects and assigned a new factor for affordability with a rating of 1 to 10, with 10 indicating that the community could not afford to implement the project. That factor was then multiplied by .6 to determine the affordability rating, which made it 60 percent of the final rating. The affordability factor was determined by working with the Depart-

ment's Municipal Facilities Division, which administers the SRF program, and using their formulas for determining affordability.

The Farmers Home program, while being a last resort for funding that has rescued many small or rural community waste treatment projects, cannot begin to make up the difference for wastewater treatment projects that cannot obtain funding from either the SRF or the CDBG programs. Clearly, additional funding and funding mechanisms are needed to aid the rural and small communities.

Although not a steady or reliable source of funding, the Department of Environmental Quality's Office of Water Resources has recently begun encouraging companies that are in negotiation concerning an environmental penalty assessment to consider dedicating all or a portion of the settlement amounts towards projects in the local community where the alleged violations occurred. An example of such a settlement agreement is a case where a \$60,000 settlement is being dedicated to a community for the construction of a new lift station to help provide sewage collection for treatment for an unsewered section of the town.

DEQ's Office of Water Resources has entered into a memorandum of understanding with EPA's Region VI concerning enforcement activities, whereby communities that are under compliance orders from EPA for violations concerning wastewater treatment can receive extended compliance schedules if they are planning to fund the project through the SRF program. This is to allow for the extra time required to meet the requirements of that program. Perhaps this same concept could be extended to communities awaiting funding through CDBG or other grant or loan programs.

The sewage treatment needs of Louisiana communities, as is the case with many communities nationwide, is great. The obstacles to funding these projects, particularly with regard to the small or rural community, can be overwhelming. Your assistance in helping to provide a mechanism that includes additional funding and less red tape to qualify for the funding and to construct the projects will be greatly appreciated.

Thank you, sir.

Mr. APPLGATE. Thank you very much, Mr. Givens.

Mr. Porter?

Mr. PORTER. Mr. Chairman and committee members, I thank you for this opportunity. I am Keith Porter, Director of the New York State Water Resources Institute, which is based at Cornell University.

The issue I wish to address is a collision between two acts, and between rural areas and urban areas, by the requirements of the Clean Water Act to rigorously protect watersheds. This inflicts, potentially, very severe economic consequences on the rural communities in those watersheds.

I would like to illustrate what I wish to argue by citing the experience that we're currently having in the New York City watershed region.

The New York City watershed is immense. It extends over an area of approximately 2,000 square miles. It includes eight counties in New York State, about 50 towns, about a dozen villages, and the

watershed itself serves almost 10 million people. So from the water resource point of view, the stakes are enormous.

Under the requirements of the Safe Drinking Water Act, the city is very vigorously pursuing the objective of sustaining very high quality water, which the city, in maintaining its reservoir system in the watershed, can already claim. But the increased requirements of the act result in very stringent pollution prevention requirements. That is where the tension arises between the needs of a major urban area under one act, the Safe Drinking Water Act, and the functioning of small communities in managing sewage treatment plants and wastewater facilities under another act (The Clean Water Act).

Currently New York City has virtually frozen all extensions of existing sewage treatment plants in terms of not allowing further flows or any additional pollutant loadings to be discharged into its system. The consequences of that cap, so to speak, are hard to exaggerate in terms of the economic implications for the communities and the industries upon which those rural communities depend. Basically, they cannot grow. Industries and businesses are unable to operate in that kind of climate. In the watershed now there is a great deal of anxiety which in many communities literally amounts to fear for their economic future.

Unfortunately, in trying to respond to this challenge we are finding ourselves very ill-equipped. Previous speakers have very articulately explained why. Small sewage treatment plants serving small communities are the cinderellas of the sanitary engineering profession. It is very obvious why. In terms of priorities, particularly in States where there are industrial or large urban centers, in terms of priorities those areas are going to receive most of the funding support; hence, small communities are very much at the bottom of the totem pole. But further than that, as illustrated by the New York City experience, where communities in fact perform well today in maintaining high quality water, there is even less priority to help those communities in that the Clean Water Act, historically and traditionally, has been based on the need to remediate water pollution problems. It does not primarily emphasize the need to prevent pollution in the first place. In the case of the Safe Drinking Water Act, that's very much the intent of that act; therefore we have an inconsistency in that some of these small sewage treatment plants now find themselves quite incapable of meeting these new requirements.

I have to differ slightly from the first speaker. Under the Safe Drinking Water Act a major concern is that of parasitic protozoa, which is not well dealt with using conventional water treatment methods, such as chlorination. In the case of one of the protozoa, *Cryptosporidium*, the profession is increasingly lacking in confidence regarding the efficacy of filters. Small sewage treatment plants can be a major source of these protozoa, so very correctly in terms of New York City's objectives under the Safe Drinking Water Act, it looks very askance at very small flows in terms of potentially being sources of these parasites.

All of this raises a very fundamental issue that we increasingly are going to have to face, and that is in our major watersheds throughout the Nation which provide high quality water resources,

we have to tackle the question: to what extent will it be possible for communities and for individuals to live, work, and play in those watersheds? From the traditional water engineering point of view, the historical view, the best watershed is an empty one. Trees are better than people. We submit that that is an untenable position to maintain in the future as the country continues to develop, and it certainly is most untenable in the New York City watershed region.

Hence, how are we going to in fact confront that need?

We suggest that one strategy that perhaps holds the most promise is to look at the problems literally in terms of the watershed scale, to try to address the question, what is the carrying capacity of watersheds relative to the environmental goals that may be in prospect? In the case of New York City, that is obviously dictated by the Safe Drinking Water Act.

Having performed the calculations, which the water profession is quite capable of doing, it is then possible to allocate the permissible loadings on a rational basis; and then within that rational framework, to allow the communities, the industries responsible for sewage treatment plants, to work out what methods would attain the desirable goals. That is a much more sensible and economically sound procedure than just simply capping the flows from the works.

To proceed in this way, however, we still confront the problems that previous speakers have mentioned, namely, the inadequate technical and financial resources of small communities. In the end we still obviously return to that issue. We believe that the way to address it initially, clearly, is to provide technical assistance and training and financial support as possible to these communities.

But further than that, it is very clear from the work we have done with rural communities that there is often intense pride in those communities. We have found it very effective to work through community citizen groups to address the problems and to try and work out the solutions. In fact, such citizen groups are now talking to New York City to submit to the city alternatives to the proposed management program that the city is trying to impose on the watershed.

In other words, under the Clean Water Act the support that act has previously given to public participation, very successfully, we believe should be extended very aggressively to small communities so that they can work out their own future; appealing, in fact, to their very strong sense of local ownership and stewardship.

Finally, the Clean Water Act already in fact does provide for this approach to a limited extent in section 303. We encourage that strategy to be strengthened in the reauthorization of the Clean Water Act so that the watershed strategy can be more systematically and aggressively pursued, particularly in the rural areas that I am describing. If we do this, then we have a reasonable promise of being able to unite environmental and economic interests rather than those interests continuing to meet in conflict.

Mr. APPLEGATE. Thank you very much, Mr. Porter, and to all of the panelists. I appreciate your forthrightness and the way your articulate your positions because they are very good, and they certainly have continued on with the messages that we have heard

since yesterday. I think it's terribly important that we get an idea from people as to the needs that must be met by these small communities in rural America.

It has been pointed out by some of you that, yes, the larger cities—we don't want to get into a wrangle with the larger cities; we've gotten into that before, but they do have a better tax base. I can see, just in my own 18th Congressional District, where the tax base has slowly eroded, and it has taken away or retarded the ability of these small communities to be able to even ask for the money, and then say that they're going to be able to pay it back. All of a sudden you look, and you set this apparatus up and then they say, "Well, it's going to cost you \$50 or \$60 or \$100 a month," and then they say, "We can't give you the loan because you can't afford to pay it back."

I note that in your statement, Robbie Savage, you had mentioned that construction grants per se really didn't work all that well, but that we should be able to try to blend State revolving loan funds with grant monies in targeting those areas with needs; in other words, go back on a needs basis. I think that you were stating something along those lines.

Ms. SAVAGE. For the time that the grants program was initiated, in 1972, we really did not have any other option. As the Clean Water Act was passed—and it was so comprehensive—that to go into a loan program at that time probably would not have been our most effective mechanism. But now we've regressed, after 20 years, to a place where the loan program that provides a stable source of funding, that is predictable for the States, that quite frankly we do not have to come to Congress every year and ask for in new appropriations, it is capitalized, that we know how to manage and plan, is a very appropriate way to do it. And to accommodate small communities within that structure we also feel is the most affordable and efficient way of doing it.

Mr. Chairman, if I could digress for just one moment, I have a personal comment.

Mr. APPLGATE. Please.

Ms. SAVAGE. Being raised in California, I am really glad to see the enthusiasm of the new Member from California, Mr. Hamburg, for clean water. Our association has testified several times over the past couple of weeks on economic development and merchant marine and fisheries, and now here, and he's always there. So I'm really glad to see Californians participating in clean water issues.

Also, Ms. Molinari—I would like to thank you for the wonderful piece you did in the inauguration. We talk about minority issues and we talk about clean water for small communities and large communities and Indian issues and so on, but it's nice to see that a Member of Congress can also deal with the fact that those of us of the female persuasion cannot find a ladies room in the United States Congress. [Laughter.]

Ms. SAVAGE. I thank you very much for dealing with our minority needs, as well.

Mr. APPLGATE. You would make a good campaign manager. [Laughter.]

Let me ask Mr. Smith—I have a little concern in what you were heading towards, that if an SRF provides principal subsidies, which

I assume means grants, should there not be a requirement—my concern is that if there is no requirement that the money is going to be paid back some way, what happens to the revolving fund? How are we going to guarantee the solvency of the fund? That seems to be a concern.

Mr. SMITH. The main concept that I'm stressing there is that a separate grant fund outside the revolving loan funds, I think, would be very detrimental to, A, the compliance efforts that we're trying to accomplish to begin with; and B, it is going to undercut the SRFs and their loan capacity.

The exact mechanism of how we provide a subsidy could be by appropriating grants to an SRF and allowing the SRF to distribute grants on a prorated basis, according to some means test. Principal subsidy, I think, is a euphemism that has developed over the past three or four years as a means of trying to distinguish between the construction grants traditional Title II approach versus a new approach that would incorporate SRFs.

So I agree with what you are questioning. The corpus of the SRF does need to remain intact, but some sort of principal subsidy or grant to reduce the construction costs is necessary.

Mr. APPLGATE. So you're really talking about a blending, as Ms. Savage was saying?

Mr. SMITH. Yes.

Mr. APPLGATE. So bring it back, maybe have a separate program, but it has to be a combination of a grant and a loan?

Mr. SMITH. Yes.

Mr. APPLGATE. I agree with that. A little money can go a long way in small communities. I brought that up in the last year or so of the Bush Administration. They doled about \$500 million that went primarily to five communities, large communities, and \$500 million would go a long, long way to helping the needs—just on a grant basis—for small town America. We aren't trying to compete or to have the large and the small competing. We have to develop a program that is going to address both of them because both of them have problems. So that was the concern, and when I saw this, I just wanted to get a little bit of a clarification of the direction that you were going in.

I think that's all I have right now.

Thank you very much.

Mr. Boehlert?

Mr. BOEHLERT. Thank you, Mr. Chairman.

Ms. Savage, Mr. Smith, and Mr. Givens, I want to thank you for your helpful and thoughtful presentations. It is very valuable information.

Pardon my parochialism, however, if I zero in on Mr. Porter, because the New York watershed problem is one of critical importance to the district that I am privileged to represent that does involve millions and millions of people, as you have correctly observed, Mr. Porter. On the one hand, in essence, you have one area of the country being asked to accept a no-growth policy, which obviously is unacceptable. But we have to be very mindful of the water needs of this area. Are the various jurisdictions beginning to recognize that there are some competing needs here?

Mr. PORTER. Yes, definitely. The city understands that the imposition of police powers to enforce regulations through invasiory authorities will not work. It can certainly freeze sewage treatment discharges.

Mr. BOEHLERT. So are you upbeat as you look at this? You have followed this, as I have. At one point it looked like people were going to arm. Now I am encouraged by what I sense is happening, and that is an appreciation on both sides of the other side's point of view.

Mr. PORTER. That's right, and there is a cooperativeness that is quite remarkable.

Mr. BOEHLERT. Are you personally and directly involved in that?

Mr. PORTER. Yes. I was asked by both the city and the communities, as represented by a coalition of watershed towns, to act as what they called a "facilitator" on their joint behalf.

Mr. BOEHLERT. Well, with your reputation and experience, I couldn't think of a better person to do that. I wish you well in your important responsibilities.

Let me ask you, you're familiar with the Clean Air Act and how we have the trading and the allowances and all that. That was a very innovative approach. Do you think we might be able to do something like that with clean water? And would you comment on that?

Mr. PORTER. Yes, certainly. There is one company, for example, in the watershed now that discharges a very minute amount of phosphorus. Because of the phosphorus goals of the city and the way those are being applied, it will not permit any increase, even if the current level of that discharge on a daily basis is virtually zero. If it were possible to invoke the "bubble concept" as it is applied in the Clean Water Act, that would do away with that problem.

Mr. BOEHLERT. You mean the Clean Air Act?

Mr. PORTER. Yes, Clean Air Act. I'm sorry.

Mr. BOEHLERT. I would appreciate it if, following your testimony, when you get a free moment, if you would be kind enough to just drop me a note and outline that particular example.

If we don't have some flexibility, in that particular example, this company would not be permitted to have any growth.

Mr. PORTER. That's right.

Mr. BOEHLERT. And yet, it's only a minute contributor to the overall problem.

In a watershed area like this, when you have communities—at random, out of 3,000 counties in America, I'll pick one, Delaware, which I happen to represent—should applications under the SRF in a county like that be given priority consideration in view of the fact that it has a significant impact on the overall watershed for a major metropolitan area? My conclusion is yes, but I want an objective response to that question.

Mr. PORTER. No, I would concur. But more generally, it's a matter of balancing the interests of both. In terms of the application of any of the policies, just to make a general response, the city does now fully understand that without the cooperation of those communities it cannot protect the watershed, particularly with respect to nonpoint sources. But in terms of working out agreements such as

that, it has an incentive that is a carrot now for the city. So in that respect, there is emerging a partnership between the major urban area and the rural communities in its watershed.

Mr. BOEHLERT. Mr. Chairman, I know it's not fair for me to dominate, and I'll conclude now.

Let me just ask you for an assessment. Are you upbeat as you look at this critically important situation?

Mr. PORTER. Yes.

Mr. BOEHLERT. And I hope you will do some writing on it, because I think it's very instructive for the rest of the country to learn from this experience between this major area, with the water needs of 10 million or so people, and the impact it has on the lives of tens of thousands of people in the suburban and rural areas who have a need to live and work and play and grow. Thank you very much.

Thank you, Mr. Chairman.

Mr. APPLGATE. Thank you, Mr. Boehlert.

The gentleman from Louisiana, Mr. Hayes?

Mr. HAYES. Yes. Thank you.

Mr. Smith, in your statement there was a sentence I wish you would elaborate on. It's on page 3, where you're talking about the governor and the director having a standard for the Ohio EPA to be assistive rather than regulatory, and then there is this sentence: "Nowhere is that philosophy better embodied than in our SRF program. We have abandoned the construction grants program command and control methods and seek to accomplish water quality objectives through comprehensive assistance rather than compliance enforcement."

Could you give me an example to flesh that out? I want to be sure that I understand what you are saying has been successful.

Mr. SMITH. The best example I can think of is a very small, rural recreation lake community in the far northwestern corner of Ohio. We call it Nettle Lake. It's an unincorporated area, a group of residents around that lake. With the blessing of the County Commissioners they contacted us and said, "We'd like some help." We did our best to help. We set up an interdisciplinary team of folks who traveled that long distance on a regular basis and conferred with the citizens' group to help them work themselves through the process of figuring out what their needs were, what types of systems were appropriate for their situation, what sort of physical and geologic constraints are present around that lake, always keeping an eye toward cost-effectiveness, helping them set up a system which is going to give them the ability to collect adequate revenues and still pay back not only the capital portion of their loans, but provide for operation, replacement, and maintenance funds over a longer term.

We're trying to give them a whole package, and we're not approaching it from a standpoint of, "You've got a problem; fix it; go out and hire somebody to do it for you, and it needs to be done in 18 months." We are helping them on their time schedule toward the ultimate goal that they set. We are being of assistance to them rather than regulating them.

Mr. HAYES. I appreciate that. I will just take a moment because of the constraints of time.

Dale, in your testimony when you refer to Region 6 out of Dallas with enforcement activities, that really ties into the question that I was asking Greg. What do you do when the mandate is there, but when the community cannot be mandated to pass a tax, nor can the community be mandated to pass a bond issue? Because both require a public approval that is a submission to voters, which a community can submit, but not mandate the outcome of the election. Even in Louisiana, that's not as easy as it used to be.

What do you do when your mandates are financial but your needs are environmental? Which is what you're driving at here, and which is what you're talking about, alternatives in funding, and then you're talking about particular violations where funding might be derived by a source, in effect, directing a fine for a point source of pollution to an activity in an associated community. I assume that's what you're aiming at, something like Superfund clean-up where they are mandating the activity or mandating a more general activity in the area. Is that what you're suggesting?

Mr. GIVENS. Yes. The specific case I had reference to was a feed mill for one of the Nation's largest chicken and poultry operations, where they had violations of a point source nature, inadequate or lack of treatment. And after all negotiations and encouragements in trying to get them to comply with the statutes, they didn't do it. So we assessed a penalty against them. After further negotiations with them we came up with the suggestion that they devote the dollars from that penalty, rather than having it go to the general fund or the State, into the community to assist with sewage treatment. This is a rural community that had very limited sewage treatment needs, and we felt that the dollars would be better spent to help the community rather than coming to Baton Rouge.

In trying to accomplish what you're talking about, we have traditionally spent many long hours, including in communities in your district, until the wee hours of the morning in trying to work with city councils and play "devil's advocate," if you want, in some cases to get them to understand that they have to bite the bullet and provide the waste treatment that's needed on that to avoid large fines that would be coming down from either the State or EPA, but usually we use EPA as a whipping boy in that case, where we can play that devil's advocate situation.

Well, I would point out that that situation worked very well with the community of Crowley, where they were able to install about 175 acres of their innovative treatment. The last time I was over there the manager for that facility, for instance, indicated that the utilities cost to operate that sewage treatment facility was only \$95 for that month.

Getting the flexibility into the system so that we can work with the communities is very important. To that end, the Secretary of DEQ has set up a group for preapplication so that anybody, whether it's a community or an industry that is coming into the State for a permitting situation, has the opportunity to sit down and meet with representatives from all aspects of the department's regulations to make certain that we can assist them rather than, as Mr. Smith said, just pointing them off to a consultant or something. That helps quite a bit.

Mr. HAYES. From your personal experience in dealing with what is basically a rural State like Louisiana, in this area, when you get into communities under 10,000, is it your experience that the economic impact of the requirement is the driving force? Or is it your experience that there is indeed any resistance to compliance or a wilful disregard of environmental standards? In other words, which would you consider the driving force, mechanizing the ability to pay, to control the debt service, to control technical assistance? Would you say that's the driving factor, and if so, in what percent of cases? Or would you say that there's still a resistance to the fact that a standard is being imposed at all? How would you equate those?

Mr. GIVENS. By contrast, in Louisiana the Mayor and Director of Public Works of Baton Rouge a number of years ago didn't like these mandates coming down from on high, didn't think they were necessary, and actually sued EPA, a very belligerent attitude that resulted in substantial penalties and sanctions against Baton Rouge.

By contrast, the mayors or police juries in the small communities are usually very willing and desirous of providing that treatment. The problem is just as you have indicated, and that is of financing and how to go about paying for it.

Mr. HAYES. And the ability to attract the expertise to direct them on what are feasible and economical alternatives?

Mr. GIVENS. That's correct, sir. And to that end we have stressed the use of innovative treatment systems, such as the one that was installed in Crowley and Mandeville and other small communities around the State. The problem that we're having there is that we're going to have to provide some flexibility with respect to some of the effluent requirements, particularly that with respect to nutrients in the form of nitrogen. We have one situation where a discharge from one of these innovative systems goes into a wetland, a "brake," as we call it in Louisiana, and that water body, that receiving area, has a tremendous bass population in it and is doing just fine, yet the treatment facility is having trouble making the number that we regulators have established in the permit for nitrogen.

I think what I'm telling you is that we don't need that lower number on nitrogen because the fish don't know the difference, and they're doing just fine.

Mr. HAYES. Thank you very much.

Thank you, Mr. Chairman.

Mr. APPLEGATE. The gentlelady from New York, Ms. Molinari?

Ms. MOLINARI. Thank you very much, Mr. Chairman.

I am obviously on the other side of the equation relative to the problems highlighted by Mr. Porter and emphasized by our ranking member, Mr. Boehlert.

Along those lines, Mr. Porter, if I may, I am greatly concerned—and I am certainly not comfortable in the position of being an advocate for the city administration—but I am concerned that the end result of a lack of management may be the realization of a filtration system that is going to cost upwards of \$8 billion in today's estimates and, as you stated, would really provide us with an inadequate drinking water system anyway.

I am fascinated with your testimony, but I am frustrated by a lack of direction for the Congress. What can we do relative to the upcoming reauthorization process to make sure that the right thing is done relative to cooperation between the communities?

Mr. PORTER. I suggest that the Clean Water Act really helped communities prevent pollution. The Clean Water Act, as I did mention briefly, has emphasized remediation. So at least in the northeast, there is high quality already, then that has a low priority among the State agencies responsible.

So when new mandates come along that in fact redefine what quality is, with the consequences we are now experiencing in the State, these small discharges, these municipalities and communities are unprepared for exactly the reasons that the other panel members have discussed.

Ms. MOLINARI. But isn't that particularly exacerbated when you have the upstate-downstate tension that exists in New York? No matter how much flexibility you give the upstate areas relative to a planned development and their abilities to project, isn't there still going to be a resentment? And then, therefore, a lack of cooperation, that in fact it is their land that we are still going to be governing to a very large extent, "we" being either New York City or the Federal Government?

Mr. PORTER. That antagonism did exist and it continues to in some degree. However, it is remarkable the degree to which community leaders are willing to recognize their own environmental interests and also recognize that they concur with New York City's interests. In that respect, community leaders who politically thought initially that it would be folly to even appear to be willing to entertain a partnership with New York City are now very aggressively pursuing that.

So I think the promise of that partnership is definitely there.

Ms. MOLINARI. Is part of that partnership sweetened by New York City's ability to purchase some of the more environmentally sensitive lands up there?

Mr. PORTER. No, that's not a sweetener, that's a sourer.

Ms. MOLINARI. A sourer?

Mr. PORTER. Yes.

Ms. MOLINARI. So in other words, they don't want New York to come in and compensate them?

Mr. PORTER. The land purchase question is a very contentious one because the communities perceive that as further limiting their own options for growth. So it's a very complex issue, as a matter of fact, but that basically is how communities currently tend to react. They are not in favor of the land purchase program generally.

Ms. MOLINARI. So your suggestion, then, is that we modify some of the language in the Clean Water Act this year to change the nature of the mandates?

Mr. PORTER. Yes.

Ms. MOLINARI. Okay. I appreciate that. Thank you. Obviously Congressman Boehlert and I will be contacting you to see how we can best do that, to get both of our municipalities and localities on board to achieve that. This is something that is of great concern

to everyone who enjoys the tremendous quality of New York City drinking water. Thank you.

I just have one quick question for Ms. Savage. If you could just expand a little bit because obviously, coming from New York, which does know how to leverage the revolving loan fund, I'm at a little bit of a disadvantage relative to the discussions. Could you please just go through for me a little bit your association's position on grants versus loans and what direction you recommend the committee emphasize?

Ms. SAVAGE. Thank you, I would like to do that.

The discussion really began in the early 1970s with the 301(h) waiver, which provided the opportunity for communities not to go to a secondary treatment level but maintain primary if their ocean outfalls were approved by the Environmental Protection Agency. At that time, you know, Tom Jorling was the Assistant Administrator for Water.

Also at that time, as I understand some of the discussions Tom had with some of the coastal cities, special accommodations for grants for the larger cities—higher percentage grants—was offered by the Environmental Protection Agency. So the debate really began with the larger communities on the coastal waters not going to secondary when the rest of the country was in fact mandated to do so.

So there is some level of resentment and concern by other communities who proceeded in a timely way to fund their environmental protection needs when in fact some of these larger communities did not go the same route. So the tension is that if now—10 or 15 years later—we're putting more money back into those communities that weren't moving at the same pace, is that in essence promoting noncompliance with the requirements of environmental statutes?

This is the upshot of how our association came to a position of not supporting the \$500 million for the coastal cities, and why the Governor has in fact supported that position to the White House in his discussion on the stimulus package.

No question, these larger communities have serious environmental needs, New York City and Boston Harbor among them. But I guess the question is, what are we about doing? Are we out to promote enforcement and compliance with environmental protection? Or is it a matter of subsidizing and supporting some of the communities that may not have been on the same track as some of the others?

So as you look at this in your decisions in this committee and others, be well aware that you may get a lot of pressure from some of those larger communities. But if you go the other direction, you may hear from a whole lot of communities throughout the United States that are being silent on this issue.

Mr. SMITH. I think we have to echo the ASIWPCA position. In Ohio we have had many large metropolitan areas that have taken the Clean Water Act mandates and deadlines seriously and moved ahead to meet their pollution control obligations. Not to cast aspersions on other cities elsewhere in the country; I'm sure that they have made similar efforts, but the feeling definitely is that we did it, why can't everybody else?

I think the noncompliance issue that Robbie mentioned is a very serious one. There is a perception that as long as grants are being handed out on an individual basis, that it is incumbent—almost a given—that any given local official is going to hold out and not move forward on the outside chance that he or she can receive one of those grants. So it is a very definite detraction from forward progress.

Mr. GIVENS. I just was going to echo that situation. As I pointed out, we have recently lowered the loan rate on our SRF program to 2.95 percent, and we still have communities that are holding out for grant dollars. That was a problem in the early days of the construction grant program; you couldn't give the money away, and then when it got to going away, everybody tried to get it at the last minute.

I think that we need to have a situation where we foster that loan program because it is doing a good job, but we also have to have a mechanism of providing grant dollars for those folks who just can't afford any other way to get there. I hope we can handle it.

Mr. APPLGATE. The gentleman from Illinois, Mr. Poshard?

Mr. POSHARD. Thank you, Mr. Chairman.

I will be brief, but I am interested in a couple of things.

First of all, I would like to second Mr. Boehlert's request to Mr. Porter, that you do some writing. This is an incredible problem between the urban and the rural areas that exists in the watersheds of the major cities around this country. I know there are differences in every community, but still, I think that needs to be done to save us some time and money.

I would just like to ask Mr. Givens about the explanation on page 3 in your testimony, where you go through the idea of encouraging companies that are in negotiations concerning an environmental penalty assessment to consider dedicating all or a portion of that settlement amount toward projects in the local community where the alleged violations occurred. How does that work logistically? The State office in Louisiana encourages those companies, instead of sending the money to Baton Rouge, to spend it in the local community for a sewage treatment project or a lift station or something like that? How did you come to that understanding?

Mr. GIVENS. It's a formal process whereby the entity that has been assessed a civil penalty enters into a negotiation with the Department of Environmental Quality and either volunteers to just go ahead and pay up front or, if we can identify a project in the area, to actually take those proceeds and apply them to the community. It's, I think, an innovative thing that we're trying to do.

We're just about to sign the agreement on this one with the chicken feed mill that I talked about on that, and it's one that I've been pushing for a number of years, but I hadn't been able to get any secretaries to go along with it. So we're on the beginning edge of that. It is something that has been used in the wetlands program before, set-asides or incentive type of things, and I think it has some applicability here.

Mr. POSHARD. Does the State general assembly have to pass any law to allow you to do this, or is this an in-house kind of thing that you developed?

Mr. GIVENS. This is an in-house procedure right now that we're doing. Our state attorney general will have to ratify it. He has to approve of any settlement agreements that we do. We don't anticipate any problems. Perhaps our division administration and the budget officers may have more a problem with it, but since it's putting it back in a local community, I think it's very sellable.

Mr. POSHARD. I think it's an innovative idea. I'm going to encourage folks back in Illinois to look at that.

The other thing I want to ask you is, you've entered into a Memorandum of Understanding with the U.S. EPA Region 4 concerning enforcement activities, and where people are applying for the SRF program, you're extending the schedule for compliance. Is that already in process? Are you already doing that?

Mr. GIVENS. Yes, sir, we are.

Mr. POSHARD. And that's okay with EPA?

Mr. GIVENS. Yes, sir. In the old grant program, it took almost seven years from the time a community applied for a grant until they got concrete in the ground. The SRF program is much faster, but it still carries much of the baggage of the grant program—the Title 2 requirements and so forth. So to try to recognize that, the Water Division in Region 6 that Louisiana is a member of and DEQ got together and came up with some language for an MOU that basically says that if somebody is trying to help themselves, they are actively trying to and are in that process, then we have a mechanism to extend within reason the compliance part to allow that process to catch up.

Mr. POSHARD. It makes some sense. Thank you, sir.

Thank you, Mr. Chairman.

Mr. APPELEGATE. Thank you, Mr. Poshard.

I'd also like to recognize that Congresswoman Brown from Florida is with us, and also our very distinguished Chairman of the Subcommittee on Surface Transportation, Mr. Rahall, is also with us, neither of which have questions for this particular panel.

I would say thank you very, very much again for your testimony, your forthrightness. You've certainly laid out your plans well, and it will play a very important role in our final conclusions.

Thank you very much for being here.

Mr. APPELEGATE. Next we will call up a panel: Mr. John Ranson, Cabinet Secretary of the West Virginia Department of Commerce, Labor, and Environmental Resources, who will be accompanied by David Callaghan, Director of the West Virginia Division of Environmental Protection, and Mike Johnson, Assistant Chief of Construction Assistance, Office of Water Resources; and then we have Mr. Don Berryhill, Administrator of the State Local Government Financial Assistance Program, Florida Department of Environmental Regulation; Paul Marchetti, Vice President, Council on Infrastructure Financing Authorities, and Executive Director, Pennsylvania Infrastructure Investment Authority; Richard Rice, County Commissioner of Bedford County, Pennsylvania; and Mr. William Stafford, Chairman of the Lee County, North Carolina Board of County Commissioners, accompanied by Bob Joyce, who is the County Economic Development Coordinator and Planning Director.

Mr. BOEHLERT. Mr. Chairman, while our panelists are getting situated and are getting identification before them, I would like to

recognize Dick Rice, who is representing the Southern Alleghenies Resource Conservation and Development Council. Mr. Rice is also the Chairman of the Bedford County Commissioners, and as all of us on this committee know, Bedford County is the home county of our distinguished ranking Member, Bud Shuster.

Congressman Shuster is not here, and I'm glad he's not here, and I'll tell you why in just a moment. He's appearing right now before the House Administration Committee to discuss our committee budget for the coming year, and I think he can do the Lord's work over there very effectively, because we know we need some resources for this committee to operate this year to get things moving in a hurry.

Paul Marchetti, who's the Executive Director of the Pennsylvania Infrastructure Investment Authority, is also with us today, so Pennsylvania is well-represented, and I know that my colleague, the ranking minority Member, Mr. Shuster, is disappointed he can't personally be here to welcome you, but I know that you know where he is and what he's doing. It's very important work.

Further, Mr. Chairman, I understand that some arrangements have been made so that Mr. Rice would be an early witness because of travel accommodations.

Thank you very much.

Mr. APLEGATE. Mr. Rice?

**TESTIMONY OF JOHN RANSON, CABINET SECRETARY, WEST VIRGINIA DEPARTMENT OF COMMERCE, LABOR AND ENVIRONMENTAL RESOURCES, ACCOMPANIED BY DAVE CALLAGHAN, DIRECTOR, WEST VIRGINIA DIVISION OF ENVIRONMENTAL PROTECTION, AND MIKE JOHNSON, ASSISTANT CHIEF OF CONSTRUCTION ASSISTANCE, OFFICE OF WATER RESOURCES; DON BERRYHILL, ADMINISTRATOR, STATE LOCAL GOVERNMENT FINANCIAL ASSISTANCE PROGRAM, FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION; PAUL K. MARCHETTI, VICE PRESIDENT, COUNCIL ON INFRASTRUCTURE FINANCING AUTHORITIES, AND EXECUTIVE DIRECTOR, PENNSYLVANIA INFRASTRUCTURE INVESTMENT AUTHORITY; RICHARD RICE, COUNTY COMMISSIONER, BEDFORD COUNTY, PA; AND WILLIAM C. STAFFORD, JR., CHAIRMAN, LEE COUNTY, NORTH CAROLINA BOARD OF COUNTY COMMISSIONERS, ACCOMPANIED BY ROBERT F. JOYCE, LEE COUNTY ECONOMIC DEVELOPMENT COORDINATOR AND PLANNING DIRECTOR**

Mr. RICE. We appreciate Congressman Shuster being there, also.

Mr. Chairman and committee Members, we want to thank you for the opportunity to provide testimony on behalf of the Southern Alleghenies Resource Conservation and Development area. The Southern Alleghenies Resource Conservation and Development area consists of approximately three million acres in south-central Pennsylvania, and I believe you have a map. Less than 500,000 people reside in our counties of Bedford, Blair, Cambria, Fulton, Huntingdon, and Somerset. This low population of density classifies our area as primarily rural.

The loss of jobs and industry in our region has a severe impact on the economic viability of our small communities at all levels of

local government. The 1990 Census shows that we have lost both jobs and population since 1980. Like many rural areas, we have higher unemployment and lower per capita income than our urban neighbors. We also have a higher percentage of elderly people on fixed income.

Our area has a large number of existing on-lot sewage disposal systems which are malfunctioning and are contributing to the contamination of both surface and ground water resources. This not only degrades water quality, but also poses a serious health threat, as evidenced by the many documented cases of spring and well contamination.

The cost of providing needed sewage facilities has often exceeded the financial capabilities of our communities. Sewage projects are more expensive per capita in rural areas than in urban areas due to our low population density. Inadequate levels of funding to rural areas, coupled with increased emphasis on loans rather than grants, has made it extremely difficult for small communities to comply with the State and Federal sewage regulations. An area such as ours has insufficient population base to support loan repayments and often are unable to even pay for the preliminary planning and engineering.

In order to address rural waste water needs, we recommend the following proposals for your consideration:

Work with States to develop a grant/loan program that truly reflects the needs of rural America and the higher per capita cost of sewage facilities in our communities. More grants, lower-interest loans, and longer repayment terms would be a good first step. Underwriting the local cost of planning and engineering would also be an important incentive to the communities with limited resources.

Encourage the development of standards and specifications for a package treatment plant that would solve many rural communities' needs without requiring large engineering costs for individual designs and similarly large construction expenses.

Work with States to encourage projects to demonstrate alternative sewage treatment systems. Few rural communities have municipal systems because of the expense of the conventional systems. The State and Federal Government have not provided sufficient funding and technical support for the development of alternative systems which better fit a rural community due to the availability of abundant, relatively inexpensive land. Demonstration projects that would provide solutions to unique problems in rural areas should receive the highest priority.

An example in our region would involve the development of a treatment plant for both sewage and acid mine drainage. The successful implementation of such a system would dramatically improve water quality in our streams currently polluted by sewage and mine drainage.

Implementation of strategies like these will go a long way toward meeting the sewage treatment needs of rural and small communities. Not only will we be providing water quality, but we'll also be increasing our ability to attract jobs and improve our standard of living.

I want to thank the Members of this committee for your assistance in helping the Southern Alleghenies Resource Conservation

and Development Council and also the resource conservation and development councils throughout the Nation, because we do cross boundary lines and we take care of problems. We can do this working together to build a stronger rural America.

Thank you, Mr. Chairman.

Mr. APLEGATE. Thank you very much, Mr. Rice. When you were describing your area, it sounded like you were describing my area, and I think that's sort of pretty much the way it is throughout much of the midwestern part of the United States, anyway, and the eastern part, and it describes it very succinctly.

At this time, I'd like to recognize the gentleman from West Virginia, Chairman of the Subcommittee on Transportation, Mr. Rahall.

Mr. RAHALL. Thank you, Mr. Chairman.

Mr. Chairman, I commend you for having these series of hearings on a very timely issue and a very important issue to rural communities throughout this country. We do have special needs unique from those of urban areas, and the financing of our waste water treatment facilities is of utmost concern to the people we have the honor of serving.

My purpose here today is to introduce Secretary John Ranson of our West Virginia Department of Commerce, Labor, and Environmental Resources, and Director Dave Callaghan of the West Virginia Division of Environmental Protection, who are with us to discuss conditions in my home State of West Virginia, and they are accompanied by Mike Johnson, the Assistant Chief of Construction Assistance, Office of Water Resources.

Mr. Chairman, as the reauthorization of the Clean Water Act continues through this year, we will hear a great deal about the progress that we have made since the original enactment of the law in 1972. That is true, we have made significant progress, but, of course, we're going to hear also about much more progress that needs to be embarked upon. In the past, rural communities and small towns have had trouble getting a significant share of funds available for waste water treatment projects. Although localities with less than 10,000 residents make up 38 percent of the national population, they have received only 24 percent of money loaned from the SRFs.

We could go on, Mr. Chairman, with more statistics, and those, I'm sure, have been relayed during the course of these hearings, but we know that in my particular State of West Virginia, and we will hear from these officials who know it on a firsthand basis, that the SRF is falling short of meeting its goal of assisting communities in the construction of sewer systems. A prime example of that is that in 1992 in West Virginia, we still had over 40 West Virginia towns that were out of compliance with Clean Water Act requirements. It's not the fault of the State. The legislation which created the revolving fund did not recognize that small, rural communities are different than large towns and large urbanized areas.

These hearings, of course, are an indication that this subcommittee recognizes those differences. This subcommittee also recognizes that we can no longer dump the municipalities into one pot and hope that the problems will all be solved. For too long our small communities, as I brought up in the meeting with President Clin-

ton prior to the announcement of his program, have had regulation after regulation heaped upon them without the financial resources to meet those regulations. It has been a prime example of too much stick and too little carrot.

So I welcome the opportunity to hear from Secretary Ranson and Director Callaghan about the problems from our perspective in my home State of West Virginia. They know our situation better than anyone else. They understand the unique problems of rural States. They know how we must cope with the lack of proper sewage treatment, poor water quality, and we could go on down the list, and what that means for our people and our businesses and our efforts to improve our quality of life.

So I introduce to the subcommittee this morning Secretary Ranson and Director Callaghan and extend my special warm welcome and thanks to them for making the effort to be here.

Thank you, Mr. Chairman.

Mr. APPLGATE. Mr. Ranson?

Mr. RANSON. Thank you.

Good morning, Mr. Chairman and Members of the Subcommittee. We have submitted information for the record, and in the brief time available, rather than read that document, I'd like to just reiterate a few points and perhaps amplify on them, mostly information that is in the submittal.

We're a very rural State. We have fewer than 1.8 million people in our whole State, and we have about 12,000 square miles. I suppose if you were to flatten it out, it would be somewhat larger, but it's very mountainous. We have relied very heavily over the duration of the construction grants program on that program for treatment facilities in our State. We've done over \$1 billion worth of projects, and of that \$1 billion of projects, about \$673 million was from the grants program. We've built 117 treatment facilities and 84 separate collection systems with those monies over that period of time.

We've done some recent surveys in West Virginia which indicate that we need 646 more treatment facilities at an estimated cost of \$2.1 billion. Ninety-seven percent of those, according to our surveys, would be for communities with less than 10,000 people. We only have 10 cities in our State with populations in excess of 10,000. The largest cities in our State have about 50,000 people. So we're a very rural, not very densely populated place. In fact, 86 percent of the systems that we need to install would be for communities with less than 3,500 people.

The 1987 Water Quality Act, of course, eliminated the construction grants program and replaced it with the SRF. The logic is good, without any question, but very small and very financially strapped communities have a great deal of difficulty participating. We have many, many communities with 400 or 500 or 600 people. We have relatively high unemployment. We have a great deal of difficulty coming up with secured funds with which to repay the loans.

In the life of the grants program, they, of course, would borrow about 45 percent of the cost of a project in some manner, and the grant would account for 50 or 55 or so percent of the project, typically. Even now, with 0 percent interest, it's very difficult to make

projects fly. What we tend to do is to look at the anticipated monthly sewer bill, and if it's going to be \$25 or less for a household, our SRF rate is 3 percent; if it's going to be higher than \$25 a month, we will back the interest rate down all the way to 0, and even so, very often it's very, very difficult for projects to be financially viable.

In looking at that, I have a couple of examples which I think illustrate that problem. We have one case—and this is in the information that was submitted—where we have a 660-person community in a fairly populated county of our State, actually. They constructed a collection system using a 55 percent grant. The average monthly sewer bill is \$22.99. If that community had had to rely on a 0 percent SRF loan, the average bill would be \$31.60. That's a 37 percent increase. In the information we gave you, there are two other examples, and in one case the increase in monthly rate would be 43 percent, and in the other case it would be actually 73 percent, an increase from just over \$28 a month in that case to \$48 a month.

We looked at 20 other communities which had received EPA grants during the grant program, and of those 20 communities, only four, with populations ranging from just under 4,000 to about 9,000, would have been able to afford their projects. So as you can see, the loss of the grants program has been a significant problem and will continue to be for West Virginia.

We didn't hear yesterday's testimony, but apparently there was a great deal of talk about the need for enhancements in flexibility. I heard you reiterate that point, Mr. Chairman. That is a theme that we would like also to echo. We think increased flexibility in several areas of SRF would be of value to us. As we contemplate recommendations that we might have for you, the first one, of course, is flexibility.

We, of course, would like to see a new grants program or the continuation or reimplementing of a grants program. If that were done, we would encourage you to consider allowing us to reserve up to some reasonable number—we'd suggest 40 percent—of the SRF monies that have been allocated to us, but not used, to be available for grants. I don't know how you might feel about that. We would ask that you consider that.

Definitions of financial hardship and such we think ought to be left to the States. We think definition of small community ought to be left to the States. It's our view, though, that anything under 10,000 or perhaps small community ought to be defined as communities exclusively smaller than 10,000. That, of course, is easy to understand how we might have that view, since we only have 10 cities larger than that.

We urge you to consider extending the loan repayment time perhaps all the way to 40 years. It's currently at 20 years.

We would encourage at least consideration of the restrictions imposed by Title 2 and the Federal cross-cutter laws. There are 30 or 40 various restrictions of one sort or another, and we would urge that those be reviewed with an eye toward perhaps reducing those restrictions in some reasonable manner.

We would encourage that modest amounts of funds be allowed to be used for outreach and for technical assistance. I've heard ref-

erences by others this morning to the value of technical assistance. Currently, 4 percent of the monies are allowed to be used for administration. If that could be increased, let's say, just to 5 percent, just a 1 percent increase, but if the increase could be used for outreach and technical assistance, we would find that extremely useful to us.

We would urge consideration of allowing that land easements could be project costs for projects under SRF. In addition to that, we have quite a backlog of projects that need to be done where the anticipated monthly rates are basically prohibitive. It's a phenomenon you were referring to a few minutes ago, Mr. Chairman. To the extent that there could be increased flexibility in regard to our meeting the time lines without losing the allocations, anything that could be done there, we'd be grateful for.

Another phenomenon that is not unique to West Virginia, but we certainly typify it, is that currently only 20 percent of the money can be used for a project activity other than treatment plans and the trunk, the major line, the interceptor. We have a low population density, we have a lot of hills and hollows, and in our case it's important to be able to use more than 20 percent of the money, if possible, for the tributaries of the collection system. That would not be unique to West Virginia, but it would probably be unique to Appalachia, let's say. But that's a measure of flexibility that would be extremely useful to us.

I think those are the key points that I wanted to reiterate, and I thank you for the time, sir.

Mr. APPLGATE. Thank you very much, Mr. Ranson.

At this time, I would like to introduce the gentlelady from Florida for purposes of introducing the Florida witnesses.

Ms. BROWN. Thank you, Mr. Chairman. I want to thank you for holding these hearings. I think they're extremely important.

I want to welcome Mr. Don Berryhill from the great sunshine State of Florida, by the way, to testify on what is an issue of critical importance to my district. Mr. Berryhill administers the State revolving fund for the Florida Department of Environmental Regulation, and his leadership and counsel will be of benefit to this committee.

I have a written statement that I just want to enter into the record pertaining to my district, but I think it reflects a lot of the whole country and the problems that small counties are having financing septic tanks in their areas. So I just want to make that statement and submit this to the record.

Mr. APPLGATE. Without objection, your prepared statement will appear in the record.

[Ms. Brown's prepared statement follows:]

Statement by the Honorable Corrine Brown of Florida  
House Subcommittee and Water Resources and Environment  
February 24, 1993

Mr. Chairman: I want to thank you for holding these hearings and for inviting Mr. Don Berryhill, from the great state of Florida, to testify on what is an issue of critical importance in my district. Mr. Berryhill's administration of the State Revolving Fund for the Florida Department of Environmental Regulation has been tremendous and I am confident that his leadership and counsel will be of benefit to this Committee.

In reviewing a study by the National Association of Development Organizations (NADO) recently, I found that 75% of all documented wastewater facility needs are in rural communities of fewer than 10,000 persons. To meet these needs, \$13 billion would be needed.

For me, this problem is highlighted most in a small town in my district -- Hastings, Florida. The town of Hastings, a small farming community, has been unable to meet state and federal domestic waste discharge standards since 1987. The aging wastewater system is crumbling and causing major leaks in the wastewater mains. With the help of the Florida Department of Environmental Regulation, the town finally scraped up enough money through FHA grants to improve treatment; however, there are still many homes on failing septic tanks and individual wells which represent a significant health hazard. We are currently pursuing

funding from other agencies to try to help Hastings alleviate this problem.

The biggest problem for rural areas is that they simply cannot raise the capital necessary to meet their needs. NADO says that the rural areas simply cannot reach the economies of scale necessary to result in reasonable consumer rates. Some how, the federal government has got to help.

I am still reviewing President Clinton's package but am encouraged by what I have seen so far. Hopefully through a commitment from the Administration and active leadership from this Committee, we can soon resolve the problems we have in Hastings and in other similar communities throughout the Country.

Mr. APPLEGATE. Mr. Berryhill?

Mr. BERRYHILL. Mr. Chairman, Members of the committee, I am Don Berryhill with the Florida Department of Environmental Regulation. Unfortunately, it's a little bit chilly in Florida this morning, too, but not quite as cold as it is here. But the weather is beautiful.

Thank you all for the opportunity to appear here today and offer our views on problems that small communities in Florida are facing as we attempt to meet stringent and, I think, necessary environmental standards.

I will also mention that Congresswoman Brown had invited Mr. Ernie Frey director of our department's district office, to testify today, and, unfortunately, he became ill. I am sort of a late substitute, but I am happy to be here. Mr. Frey sends his regrets.

Florida is now the fourth most populated State in the Nation, and we're continuing to grow rapidly. However, even though we're fourth in the Nation, we're still a State of small communities. Right now we have over 4,000 publicly and privately owned waste water facilities in the State. Over 80 percent of these serve less than 1,000 people, and more than 80 percent of the incorporated communities in our State have less than 20,000 population.

Many of our small communities have no central waste water facilities, and in many that do, the older collection systems need major rehabilitation. Right now we have more than 1,700,000 septic tanks in the State of Florida. Many of these are not operating properly. These failed septic tanks are a potential threat to people's health and they pollute the surface and ground waters, and the replacement cost of septic tanks now with central sewers may exceed \$10,000 per residence. Many of our families in small communities in our State don't earn that much money in a year's time.

Although these costs are high, I think we should all keep in mind that the problems we're talking about can be fixed. We have the technology, we have the programs, we have trained people, and I think to a great extent we have the willingness of the people to face and solve these problems if we can just give them some help.

I'd like to give an example using the small town of Hastings in Florida. Since 1987 this small community—it's a small farming community—has never been able to meet the waste discharge standards. They applied to the State for funds back in 1985, and this is under what we call an old State grants program now, but they, along with 61 other small communities in the State, did not get funded. We just didn't have enough money. The town finally received some funds through the Farmers Home Administration Program and made treatment plant improvements. However, they still need funds for some collection system work, and they need to eliminate some remaining failed septic tanks.

This small community's attempts to correct their waste water problems over the years clearly indicates their willingness and interest in trying to meet stringent requirements that must be imposed to protect the environment that all of us enjoy. We see this desire to do the right thing in most of our small communities. I will admit a few are still reluctant, but I think most now understand the importance of fixing these problems. But if these costs exceed what the citizens can afford to pay, the facilities just don't get

built, and, unfortunately, these problems remain and grow larger all the time.

We are funding some small communities through our revolving loan program. This is an excellent program, and we thank all of you for the Federal funding support that you've given us thus far, and we sincerely hope that you'll see fit to continue this support. In our program in Florida to date, we've made low-interest loans of over \$330 million to 23 communities in the State. Eleven of these are communities that have a population of less than 20,000, and this is what we use as our cutoff population for small communities in our program in the State.

To try to assist more small communities to come into the SRF program, we're currently revising our State rules—this is something that we can control—we're revising our rules to provide loans for the upfront planning and design work, as well as the construction costs. Since we're able to meet our equivalency requirements under the Federal laws through the funding to our larger communities, we are planning to drop the Title 2 requirements for our small community projects, assuming that our proposed rule changes are adopted. But even with changes such as these that will provide some additional benefits to the small communities, we still have communities like Hastings. Though they've worked and struggled over the years, they still need help, and a lot of these people simply cannot afford to repay a loan even at 0 percent interest.

In addition to Hastings, the current list of projects that we maintain that are in the planning phase—and these are projects that are planned for construction over the next four to five years—we have 85 projects on that list, \$1.3 billion worth, and over 30 percent of these are for small communities. It might be of interest to note that the very smallest project that we have on this list comes from Gilchrist County School Board. The school board has requested \$287,000 to provide modern facilities for Bell High School there. Gilchrist County, even though it's in the fourth most populated State in the country, has less than 10,000 people there. So, yes, we in Florida have a small community problem also.

With problems like these, what can we do? I think you've all heard a number of recommendations. I'm going to quickly add ours to the list. I think that mostly we'll endorse things that others have said.

The first recommendation that I'd like to make is a fairly obvious one. We would like to see more funding for the SRF program and hopefully some money that would be earmarked especially for small communities. We would recommend that the funds be administered through the SRF program. This is an established, existing, working program, and we would prefer not to see another red tape-laden grants program.

Along with this, as has been mentioned earlier, we would like to see more flexibility at the State level in funding projects in communities that are financially stressed and possibly making loans from this special fund at less than 0 percent interest. This is another way of saying a principal subsidy or, in effect, a grant, but base the loan on the amount of money that a community could realistically afford to repay. Obviously, the amount of money made available in

this fashion would have to be limited so that the overall financial health of the loan fund could be protected.

We would like to also see the terms of the loans extended for small communities. This would reduce the annual payments that the communities had to pay on the loans, thus allowing lower monthly charges to the citizens.

We would like to see Title 2 requirements eliminated for small communities at the Federal level. Also, in our case—and I'm not sure about other States, but I suspect they are having difficulty—in our State, we're having more and more difficulty coming up with the 20 percent matching funds. We would like to see that eliminated or, as a minimum, limit the State match to the current Federal funding levels.

We, as was brought out by West Virginia, would also like to see elimination of the 20 percent limit on the use of SRF funds for funding collector sewers. This gets back to those more than a million septic tanks that we have in the State. We have needs for a lot of collector sewers in our State. Also, along with this, somewhat of a minor thing, but we would like to see the allowance of funding of land, easements and right-of-ways, because in the case of collector sewers, this also can be a major cost.

In concluding this, I'd like to emphasize again that we are facing problems that are fixable. Our small communities just need some financial help. I believe that if you will help provide us with additional funding for the small communities, give us at the State level greater flexibility in administering the programs to better fit our needs, we can more nearly meet all of the small community needs.

Again, I thank you for this opportunity and would be happy to answer questions. Thank you.

Mr. APPLGATE. Thank you very much, Mr. Berryhill.

At this time, I'd like to recognize a very distinguished colleague from the great State of North Carolina, Mr. Valentine.

Mr. VALENTINE. Thank you, Mr. Chairman. Another one of my constituents, the former president of Centura Bank, Mr. Futrell, just came in the door, so I'm glad to have him have an opportunity to hear you call me distinguished or whatever it was you called me.

Mr. Chairman and Members of the subcommittee, I am pleased to have the opportunity to introduce to the subcommittee one of the witnesses, I believe the last witness on the schedule today. He is Mr. William C. Stafford, Jr. The program says he's Chairman of the North Carolina Board of County Commissioners. He is Chairman of the Lee County Board of Commissioners, which is one of the 100 counties in North Carolina. I suppose this is the same in many States, but the county commission is the executive governing board for that very dynamic and also mostly rural county in south-central North Carolina. So as chairman of that board, he is the chief executive officer for that county in our district.

Mr. Stafford also has with him Mr. Robert F. Joyce, who is Lee County Economic Development Coordinator and Planning Director, and I want to say to them that I appreciate both of you taking the time to come here and to share your views on this important subject with the subcommittee.

Thank you, Mr. Chairman, for that opportunity.

Mr. APPLGATE. Mr. Stafford?

Mr. STAFFORD. Good morning, Mr. Chairman.

For that warm welcoming introduction, I say thank you, Representative Valentine.

Members of Congress, today I am here to speak to you regarding the burden that Lee County and other such rural areas have to bear in the cost of the Clean Water Act Federal mandates concerning permitted sewage treatment facilities and wish to share with you comments which hopefully will lead to an area of—and I'm going to introduce a word—sustainability.

The provision of safe waste water treatment is crucial to the social and environmental health of rural communities. The Federal Government recognized the need to restore integrity to our Nation's waters by adopting the Clean Water Act. The Clean Water Act attempts to address point source pollution by permitting and regulating sewage treatment plants. Advocates of the Clean Water Act can claim many victories, including, but not limited to, the tens of thousands of them constructed since 1981, solving the sanitary sewer needs of many.

Nationally, a large amount of Federal money was devoted to the construction of many waste water treatment facilities in the 1960s, 1970s, and 1980s. In 1987 a program of Federal assistance to the States for construction of these plants was reauthorized in an amendment to the Clean Water Act providing a total of \$9.6 billion in grants through 1990. We've heard much testimony this morning with regard to how little of that came to the smaller communities.

Federal loans will be provided to States for the treatment facility construction only through 1994, at which time all Federal loans for the purpose will cease. The lack of Federal funding to supplement the increasing cost of compliance with Federal mandates, particularly EPA regulations, will unfairly burden rural areas as well as smaller municipalities. Although much has been accomplished by the Federal monies spent to construct sewage treatment facilities, little of this funding ever reached past cities and towns to rural areas such as the unincorporated portions of Lee County, North Carolina.

The bulk of Federal funding during the past decades focused almost entirely on the construction of large municipal waste water treatment facilities for the metropolitan areas. Little has been done to help rural America with failing septic systems and with no affordable access to municipal sewer. When the Federal Government relinquished its responsibility for infrastructure financing to each State in the 1980s, more and more of the financial burden fell on local governments to enforce regulations mandated by the Federal Government.

The problem becomes clear. Large metropolitan areas have a greater tax base upon which to draw the funds necessary to install, maintain, and expand federally-mandated wastewater treatment facilities. There simply is not enough money in smaller rural communities, such as Lee County, to provide adequate sewage facilities to all their citizens who look to local government to solve this problem. This quiet crisis is looming and threatens the health and environment of many other economies, not just Lee County's. It is critical that the Federal Government not take actions that will make

it more difficult for local governments to raise the revenues necessary to meet the growing needs.

The quality of a community's infrastructure is a critical index of its economic vitality. Reliable transportation, clean water, and safe disposal of waste are basic elements of a civilized society and productive economy.

Mr. Chairman, in the interest of time, all of my remarks have been turned in, but I'm going to continue on, but condense these remarks moving forward through this text.

Current Federal regulations resulting from the Clean Water Act are not problematic to local governments due to a lack of funding. The actual regulations themselves are difficult to enforce due to constant changes. The public works director for the City of Sanford, the largest municipality in our county with a population of slightly over 20,000, and the sole provider of municipal waste water treatment in Lee County, refers to Sanford's efforts to stay ahead of the ever-changing regulations as similar to shooting at a moving target.

The City of Sanford's Big Buffalo Sewage Treatment Plant was built in 1975, with a capacity of approximately five million gallons of water per day, for \$5 million. This facility was designed to serve Sanford citizens for 20 years; however, Federal regulations continued to tighten over the following years until, 15 years later, with only half of the sewage treatment plant's capacity having been utilized, the city was placed under special order of consent by the State of North Carolina to comply with the latest regulations regarding a lower amount of dissolved oxygen. Essentially, the City of Sanford was told that although their relatively new sewage treatment plant was only utilizing 50 percent of its capacity, they could not even add one more user without making costly updates.

Moving forward, while the benefit of securing an enduring safe water supply is not disputed, the cost of mandated regulations is constantly growing. These rules drive State policies, which must in turn be enforced by local governments. Although Federal funds were readily available and utilized to construct Sanford's original waste water treatment plant, little Federal assistance, other than a \$750,000 EDA grant, was available when costly updates in the system were completed. The mandated improvements were concluded in 1992 with a cost of \$10.8 billion. The capacity of the system was increased to 6.8 million gallons per day, although the additional capacity was not immediately necessary.

The payment of the cost of federally mandated waste water treatment improvements is not only so obviously borne by the citizens of a municipality. Most municipalities, including the City of Sanford, have resorted to supplementing user rates. User rates allow only for those citizens who actually use the municipal sewer system to pay for the maintenance. However, user rates usually do not fully refund a municipality for its administrative and other economic opportunity costs associated with capital projects of this magnitude.

The pay-only-for-usage policy is also not conducive to the needs of rural sewer users. Typically, rural residential users cannot afford to pay for the full costs associated with the utilization of such systems. This means that in order for a municipality to provide

sanitary sewer to rural residential users, the municipality must look to industrial and commercial users, as well as to ad valorem taxes, to subsidize these costs.

Overall, in discussions with many of our main industries in our area, the cost of waste water management is becoming increasingly higher to them. Guest, Keen, Nettleford—otherwise known as GKN—a local automotive plant in Lee County, has recognized similar financial problems due to rapidly changing Federal regulations. Mr. Dennis Donovan, GKN's plant manager, cites the pressing need for long-term EPA regulations. GKN recently purchased an expensive piece of industrial equipment, which was rendered obsolete long before the equipment was depreciated due to the rapidly changing EPA regulations.

The Clean Water Act has accomplished much good throughout the Nation's urban areas; however, the focus of the Clean Water Act must be broadened to recognize the limited fiscal capacity as well as sewage treatment needs of rural areas as well as urban areas. Sufficient Federal money should both back urban and rural-oriented communities with long-term solutions for the problems existing and strive to fulfill the original intent of the act to ensure the safety and cleanness of our Nation's waters by providing Federal funds for the implementation of federally mandated programs aimed at providing safe sewage treatment alternatives to all Americans. Such action will allow us all to reach a level of sustainability with regard to mandates as well as economic competitiveness.

I thank you for your invitation, your time, and your willingness to hear from rural America. If you have any questions, feel free to ask them.

Thank you, Mr. Chairman.

Mr. APPLGATE. Thank you very much.

Mr. Marchetti?

Mr. MARCHETTI. Mr. Chairman and Members of the subcommittee, thank you for this opportunity. Since Congressman Shuster couldn't be here, I'll take the liberty of introducing myself, if you'll bear with me.

My name is Paul Marchetti. I come here both as Executive Director of the Pennsylvania Infrastructure Investment Authority, which is otherwise known as PennVest, and as Vice President of the Council of Infrastructure Financing Authorities, which I will refer to as CIFA. PennVest is Pennsylvania's program for funding clean water projects, both drinking water and waste water projects, across the commonwealth, and has been in operation since the governor created it back in 1988. CIFA is a national organization comprised of State entities like PennVest, only it's those agencies that manage SRF programs.

What I'd like to do is just paraphrase my testimony. I think you all may have copies of it.

My basic point is simply to show that the SRF program can be modified to accommodate the needs of small and rural communities, and I would like just to offer PennVest as an example for how that can be done. My suggestions are not really radically different from a lot that you've heard already. I simply want to say that we have some experience over the last five years that shows

that some of the suggestions that you already heard can actually effectively be put into place.

As I said, we started in 1988. PennVest was capitalized by approximately \$1 billion in State funding, and added to that is approximately \$300 million in SRF funding. The State funding can be used for both drinking water and waste water projects, and the SRF funding, of course, can only be used for waste water. Since that time, we have provided loans and some grant money of slightly over \$1 billion. We have over 650 loans that we have made since that time and are currently active.

What we do when we make loans is that we look at the affordability of a project. We take the cost of a project, the O&M that users are going to have to pay, their other debt service, and compare that with the ability of a community to afford the project that we're financing, and we try to tailor our assistance in order to make these projects affordable. We do that both by lowering our interest rates or adjusting those interest rates to come up with what we think are affordable user rates, and we also work in grant money, which, of course, has to be State grant money, since we can't use the SRF for that purpose. When we do a State-funded loan, we can also extend the term of that loan out to as far as 30 years. We use each of these mechanisms in order to make our loans affordable.

I would like to also point out that a lot of our assistance already is going to small communities and rural areas. Approximately a third of our funding goes to small systems, which I'm defining as those systems that have less than 1,000 connections. Translated into population, that's about 3,300 people or less. They get approximately a third of our financial assistance, but comprise about 60 percent of the loans that we approve. The difference between those two percentages is simply that small systems tend to have smaller loans. They average around \$1 million as compared to large systems, whose loans average a little over \$2 million.

If you look at the distribution of our assistance another way, about half of our financial assistance goes to rural areas, which is they get slightly over half of our loans, if you count them in terms of number of loans.

Pennsylvania has a very large contingent of small systems. There are about 2,500 community water systems and 4,000 sewer systems across the State. If you take all of those combined, about 75 percent of those are considered small by the definition I just used. PennVest was really designed to address the needs of those systems, which is why we have some flexibility built into our program which we would like to see extended to the SRF program as well.

To get down to those suggestions, we have three, which not only I can suggest from our experience in PennVest, but also these are suggestions that CIFA has made in a number of contexts, which we would like to see as modifications to the SRF program.

One, of course, is extending the program for drinking water. We currently do that in PennVest, and we think there is a tremendous need out there, certainly in Pennsylvania and I think in other States, for small communities in particular to come into compliance with the Safe Drinking Water Act, which has some very expensive provisions in it. We would like to see the SRF extended to cover

drinking water systems, and we fully support the Administration's proposal to do that and would like to see this committee and Congress in general further that effort.

Secondly, we would like to see, as other people have suggested and I've described in what we already do, the provision for the SRFs to be able to make grants. We think that grants are needed in some cases. We certainly do that now in PennVest with our State money. I'd like to point out that we've done about \$45 million worth of grants since we started in 1988, and almost 80 percent of that has gone to small systems, which just shows that that is where the need for this funding is.

We think that can be done within the context of the SRF either through a principal writedown or some other mechanism. We typically, through CIFA, support a principal writedown mechanism. But it's important that grant money always be combined with loan money. We think that some payback is necessary both to ensure efficiency of projects and also financial and fiscal responsibility on the part of recipients. It's important that grant money and loan money be combined and presented in one package, which is one reason why we would like to see that incorporated as part of the SRF program as opposed to being set up in a separate program.

Thirdly, we would also like to see SRFs have the flexibility to extend loan terms, as we now do with our State money. We go out as far as 30 years. It should really be the design life of the facility that you're funding that determines what is an appropriate loan term, and that's going to vary by project, it's going to vary by project component. Perhaps 30 years is not right for all States. It has worked very well for us. But we would also like to see that flexibility incorporated into the SRF program.

Basically, what I would like to emphasize is that the State portion of PennVest has a lot of flexibility that the SRF portion does not, and our experience has been with the many small systems that we have funded and have to address that the flexibility that we have has worked very well in addressing the financial needs and the funding needs of small systems, and we think that that same model can work in the SRF.

We would encourage the subcommittee to consider modifications of the SRF to build in that flexibility and, very importantly, to keep all of this within the context of the SRF. We think that's a model that works very well, that works very well across States, and we think it is able to be modified to accommodate the needs of small systems in rural areas that you're addressing today.

Thank you for this opportunity. That's all I have to say.

Mr. APPLGATE. Thank you very much, Mr. Marchetti, and all of you, for great testimony.

I have a question for Mr. Stafford which was submitted by Representative Valentine. He wanted to know this: Earlier testimony has emphasized the need for more flexibility at the local level. What sort of specifics do you recommend?

Mr. STAFFORD. Mr. Chairman, the first thing I would recommend is to maintain tax-exempt financing for local governments. This is a great aid to us as an additional tool for funding such infrastructure needs. Two, encourage us to cooperate with our neighbors and form regional service areas public-quasi-private partnerships;

three, as Congressman Synar mentioned, provide us with the technical assistance to comply with rapidly changing regulations; four, continue funding the State revolving loan fund program; and five, allow us to do more long-term, long-range planning at the local level and hold us accountable for this.

Again, I'll go back to the earlier testimony I gave, the word "sustainability," the problem of shooting at the moving target of the regulations. We need to have the ability to plan over a longer term than we have in the past.

Mr. APPELGATE. Okay. I thank you.

Mr. Ranson, let me ask you this question, because I think it's very important. Have you noted any environmental or any health problems that could be related to the lack of adequate treatment in a lot of the small communities? If so, has this affected the ability of West Virginia to attract industries into the area?

Mr. RANSON. I can't specifically identify health problems. I can tell you that we have measured, for instance, very high fecal coliform levels in streams in certain rural areas of our State. I have not spoken with our State health department people in terms of epidemiological data that specifically identifies health-related problems. There may be such data, but I don't recall having seen it. We could see if we have such information and provide it to you, sir.

Mr. APPELGATE. I'm not sure in my area that we could really come up with a figure, either, but we do have in my area, which I think pervades much of the rural and small town America, that it's very difficult to attract industries into an area simply because of the fact that you can't offer them the utilities that they need in order to operate an industry.

Mr. RANSON. That's an excellent point, sir. One of the other hats that I wear is responsibility for the economic development effort in our State, and in surveys the reason most often cited why we lose an industrial development prospect is lack of suitable sites. When you investigate that a bit further, at the top of the list is the lack of infrastructure—sewer, water, utilities, access roads, railroad, whatever—but lack of access to suitable water and waste water treatment is very high on the list.

Mr. APPELGATE. There's a point that I think you made that I want to try to understand what it is that you're saying, because I think it was covered a little bit earlier by Mr. Smith when he was here. You're saying you believe in grants and loans, but do I understand you saying that you should take a portion of State revolving funds to be used as grants?

Mr. RANSON. Fundamentally, we totally agree with those here and before who have said that a combination of a grant and a loan makes good sense, and we endorse the notion of administering whatever grants there are through the SRF framework. In addition to that, I suggested to you that it would benefit us if we could use some of the loan pool already allocated to us, but not yet committed, for those grants in the event that grants are reimplemented.

Mr. APPELGATE. Once that gets out, of course, that would be extremely popular. Wouldn't that deplete that fund very rapidly?

Mr. RANSON. Yes, sir, and there would have to be carefully thought out checks and balances and limits on that activity, certainly.

Mr. APPLGATE. Let me ask Mr. Stafford, I'm just sort of curious as to that plant that you were talking about. You said that you had built a plant in 1975 with the capacity of, I guess, about five millions per day at a cost of \$5 million and for 20 years of growth, and here you are 15 years later and you're only using half of it, and now the EPA is coming back and saying that it doesn't comply because of certain oxygen levels and that you can't add anymore people to that.

Mr. STAFFORD. That's correct.

Mr. APPLGATE. In other words, how large a community—

Mr. STAFFORD. Oh, 20,000.

Mr. APPLGATE. Is your community 20,000, or was it built to handle 20,000 or 40,000?

Mr. STAFFORD. It was built originally to handle a certain amount of gallons per day. That was its size limits. Before we reached the maximum capacity that it was originally designed for, due to tighter regulations than we had agreed upon originally or that we were attempting to comply with, we were issued a no-further-extension order, therefore limiting our economic growth with the other needs that we had. You know, communities don't sit still in America out here. They either go forward or they go backwards, and we were faced with what we thought was a time where we were looking at a backwards roll.

Mr. APPLGATE. You can continue to use the system now.

Mr. STAFFORD. Correct.

Mr. APPLGATE. But are you under a mandate that you have to make the changes?

Mr. STAFFORD. Yes, sir. We were, and we passed a bond issue. We did get some funding, the City of Sanford did, from the program for expanding that system, but we had to go back to the taxpayers for additional bond issues in order to increase the capacity, which also allowed us to comply with part of the EPA regulations, and we're now up and going again, although we did have about a two-year period that we could not use the system.

Mr. APPLGATE. Were you able to go to the State revolving fund?

Mr. STAFFORD. Yes, sir.

Mr. APPLGATE. Did you?

Mr. STAFFORD. Yes, sir. To my knowledge, yes, sir.

Mr. APPLGATE. How much did you have to ask from your bond issue?

Mr. STAFFORD. It was \$10.8 million from the bond, and I'm not sure on the loan program. I'm sorry. I can get that answer for you, though.

Mr. APPLGATE. Those are tax-exempt bonds?

Mr. STAFFORD. Yes, sir, and we're wanting to keep that status.

Mr. APPLGATE. Right. I agree with you on that. Well, okay. I was just very curious about that, and I do have some other questions I wanted to ask, but I will be submitting questions to perhaps each of you, and I would hope that you would be willing to answer those for us.

Mr. Boehlert?

Mr. BOEHLERT. Thank you very much, Mr. Chairman.

To my friends from county government, let me say as a former county executive, we're on the same wavelength. I can appreciate the problems you're facing.

Mr. RANSON, let me ask you, the examples you cited—Hanley, for example, a community of 660 people, where do they get the money initially just to hire someone to do the planning and the submission of an application? I mean, what would that cost for a project of the size required for Hanley?

Mr. RANSON. With your permission, sir, I'll let Mr. Johnson, who specifically administers the program, answer that. May I?

Mr. BOEHLERT. Fine.

Mr. JOHNSON. Sir, the town received funding through the Title 2 advancement allowance program, which we established back in 1984 as a means to help communities pay—

Mr. BOEHLERT. That's State funding?

Mr. JOHNSON. It's actually Federal funding coming through the Title 2 construction grant program.

Mr. BOEHLERT. Okay.

Mr. JOHNSON. So we use that program, rely on it heavily, to pay for preliminary engineering services such that that project could then be financed—

Mr. BOEHLERT. But how do they start? I mean, Hanley decides it's got a problem, and it's a very small community. What do they have to do, retain a consultant to come knock on your door?

Mr. JOHNSON. Yes, sir, that's usually the first step.

Mr. BOEHLERT. That costs them money to start with. See, I am so sympathetic to the plight of the Hanleys of America. I mean, the people look around and say, "We've got a problem. We've got to do something about it," but just to retain a consultant—and I'm not suggesting the consultants overcharge. They're very able professionals and have got to be paid for their services, but these small towns have a tough time just scraping together the money for the consultant, and that's a very iffy thing, because then you're just getting into competition.

Mr. JOHNSON. That's right, and usually my staff provides technical assistance to small communities, even in the negotiation of the engineering agreement.

Mr. BOEHLERT. All right. How about Florida and Pennsylvania? Can you tell us, Mr. Berryhill, in Florida do you provide technical assistance to these small communities?

Mr. BERRYHILL. At this point in our loan program, we do not, other than at the time the community receives their loan they do receive an allowance to help defray a portion of that upfront cost. Unfortunately, that does not come until after they have completed all of the design and the preliminary work, which is very expensive. This is a problem that we are currently addressing with a rule change, which we can do at the State level, and we are planning to start offering upfront loans for both the planning and the design phases of the project.

We have one form—being the good bureaucrats that we are, we have a form for everything—that we call a request for inclusion, and it's simply enough information that we can determine the financial needs of the community and assign a priority score to the project, because normally the demand for funds exceeds what we

have available. So we have to have a system to decide who gets the money, and we use a numerical scoring system to do this.

Mr. BOEHLERT. How about Pennsylvania, Mr. Marchetti? Do you do something? I hope I'm properly articulating it, but my concern is the Hanleys of America, a small community of 660 fine, decent people who have got a problem on their hands, and initially they've probably got to put out thousands and thousands and thousands of dollars just to get somebody to guide them in solving their problem, and that's a problem to start with. What do you do in Pennsylvania?

Mr. MARCHETTI. We have what we call an advance funding loan program where we provide financial assistance for design and engineering work or even feasibility studies. If somebody applies to us, we will give them a loan, and we can also work a grant into that funding, just to do the upfront work to get a community in the position to apply for a construction loan. We've been doing that for a number of years through the State program.

Mr. BOEHLERT. Do you think most States are doing that?

Mr. MARCHETTI. That I can't answer. I've heard of other States doing it. I don't know if most States do it.

Mr. BOEHLERT. Unless we're willing to concede that small town USA can just wither up and die, and I'm not willing to concede that, we've got to do something to help them.

Let me ask you this, and I'm not a technical man at all. That's why I'm on the Science and Technology Committee, which is my other assignment. [Laughter.]

Am I being naive, or is it possible to have sort of an off-the-shelf plan that can be used by Hanley and New Berlin, New York, and the communities around the country where you've got a problem, you've got 660 people in your community, and you pull off the shelf the standard design that would be applicable in probably 90 percent of the communities across the country of that size, absent any unusual geology or whatever? Is that possible, Mr. Marchetti, do you think?

Mr. MARCHETTI. I will demur somewhat, since I consider myself a financial person and not a technical person, but it's certainly true that a lot of the projects we fund are fairly standard in their design. Package treatment plans, for instance, which just basically have to be imported and put into place. I don't know that you can say that there is a standard design that's going to work everywhere. That's probably not a reasonable expectation. But I think there is a lot of consistency across these projects that would be applicable elsewhere, and I think probably there are simple designs that could be used in a large number of cases.

Mr. BOEHLERT. Well, Mr. Ranson, do you have any comment on that?

Mr. RANSON. Mr. Johnson and I were just conferring as we listened to Mr. Marchetti. It occurs to us that substantially for the town of Hanley and towns that size, there ought to be a relatively standard design for the treatment plant itself. Obviously, the distribution system is unique to whatever community, but a substantial part of the cost, of course, is the treatment plant, and to the extent that you could standardize a design for that and such, there ought to be an opportunity to do that. But finding the right loca-

tion, particularly in difficult terrain like ours, finding a suitable spot for that treatment plant is a bit of a consideration.

But it makes common sense, and I do have a bit of technical training, that there could be considerable standardization of treatment plants themselves, without question.

Mr. STAFFORD. Mr. Boehlert, to your question a minute ago, I would like to offer you a response to a package plant system that could go from one town to another and share with you this thought. We sent to our superintendent of public construction in North Carolina—this is a different but similar situation in that we were recommending to him that he gain some insight into some school sizes—a school size that would fit 500 people at an elementary level, and then a school size that would fit 1,500 students at a high school level. I'll tell you very quickly you run into, unfortunately, the architectural lobbyists and the engineering consultant lobbyists who would restrict—you would be hearing, as we have heard in the past, that they want to keep designs flowing of a multitude.

Mr. BOEHLERT. I'm very mindful of their need to make a buck, and I don't want to deprive them of that opportunity, but, boy, small town USA is hurting—

Mr. STAFFORD. I understand and agree.

Mr. BOEHLERT [continuing]. And in so many instances we force them to buy a luxury vehicle when a compact car might do the job. I mean, the education example, you drive through my neck of the woods in upstate New York, and I can tell you almost to the year when a high school was built, particularly those schools that were built WPA. You know, 1936, 1937. There's a standard design all across America, because the Roosevelt Administration—I'll give a plug to the opposite side—wanted to get people back to work, and they had that standard design. So I'm looking for something similar for the small communities of America, and I guess we're all on the same wavelength.

I just want you to know I appreciate your testimony. It will be very helpful to us, and we're going to be working very hard to, one, give you more flexibility, because you need more flexibility. The last thing you need is some bureaucrat on high in Washington dictating chapter and verse everything you have to do. Secondly, accompanying the mandates, we'd like to give you a little money to help you pay the bill.

Thank you very much.

Mr. APLEGATE. Thank you, Mr. Boehlert.

Of course, as always, we save the best for last. The gentleman from West Virginia, Mr. Rahall.

Mr. RAHALL. Thank you, Mr. Chairman.

I'd just say to Secretary Ranson in response to that last question from the gentleman from New York that in regard to the lack of proper space to build these facilities on flat land, the way that Director Callaghan has been issuing mountain top removal permits, I would think we're going to have sufficient land in West Virginia to build these types of facilities. [Laughter.]

Let me ask a question to you, Mr. Secretary. Do you feel that small, low-income communities can benefit from the use of alternative or non-traditional technology, such as land application or

natural or constructed wetlands, as opposed to depending on the modern, high-tech technology?

Mr. RANSON. Yes, sir. I'm enthusiastic about those particular technologies and perhaps others. There is a rapidly growing body of technical data supporting the notion that wetlands, for instance, can be very effective in terms of cleanup, and to the extent that that makes sense technically and to the extent that it's environmentally responsible, I think we ought to look carefully at it. It's particularly suitable for small communities where the waste load is relatively modest, particularly if there are wetlands available or even can be created for that purpose, land application of sludge. We know sludge is, in all probability, something that needs to be controlled very carefully, but that material does have a nutrient value, and so long as the content of it is carefully monitored, it seems to me to be a reasonable balance of environmental management and cost control.

Mr. RAHALL. Besides the cost of a system, I know another problem that small communities face is just basic know-how. They generally rely on elected officials who volunteer their services, as you well know, and cannot afford to employ an engineer to fully plan and operate the system. How useful are organizations such as the Rural Water Association or the Rural Community Assistance Programs, known as the Community Action Commissions in West Virginia, in assisting small communities with the planning and the operation of a system?

Mr. RANSON. With your permission, I'd like to let Mr. Johnson react.

Mr. RAHALL. Sure.

Mr. JOHNSON. Sir, we in fact have monthly meetings with other State and Federal funding agencies involved with not only the funding of these projects, but also the operation and maintenance involved with those facilities. We certainly would like to do more. Speaking from my staff's standpoint, we believe that the small community in West Virginia is our employer. That's who we work for. So we're going to provide them as much technical assistance and administrative assistance as we can in helping them to implement one of these projects.

Mr. RAHALL. So these organizations or commissions do play a vital role in this process.

Mr. JOHNSON. Yes, they do. We all work together.

Mr. RAHALL. Thank you.

Yes, Mr. Secretary?

Mr. RANSON. May I add to that, sir? One of the recommendations we made was to consider increasing from 4 percent to, let's say, 5 percent the amount of SRF money that could be used for administration. The primary reason for that recommendation would be to allow us to increase the amount of technical assistance that we're able to provide to those small communities.

The Vice Chairman made reference to the problem of small communities often having difficulty even accessing a consultant to help them with the very fundamental preliminary work that has to be done. It occurred to us that with a little bit of flexibility in terms of what administrative monies can be used for, in the case of West

Virginia in particular, we might be able to provide some of that out of our offices and do it real efficiently.

I'm also impressed with the Pennsylvania model and will be wanting to get more information about that.

Mr. RAHALL. Thank you.

Thank you, Mr. Chairman.

Mr. APPLGATE. Thank you very much, Mr. Rahall.

[Subsequent to the hearing, additional questions were submitted to Mr. Marchetti and Mr. Rice by Representative Bud Shuster. The questions and responses follow:]



Commonwealth of Pennsylvania

**PENNVEST**

Pennsylvania Infrastructure Investment Authority

Keystone Building, 22 South Third St., Harrisburg, PA 17101  
(717) 787-8137Governor Robert P. Casey,  
ChairmanPaul K. Marchetti,  
Executive Director

July 26, 1993

Honorable Bud Shuster  
U.S. House of Representatives  
Committee on Public Works and Transportation  
Suite 2165  
Rayburn House Office Building  
Washington, DC 20515

Dear Congressman Shuster:

I am writing in response to your March 2 letter transmitting some questions that you wished to ask concerning my February 24 testimony before the Water Resources and Environment Subcommittee. I appreciate your interest in this testimony and the wastewater treatment needs of small and rural communities. I apologize for the delay in my response, but I only received a copy of your letter last Friday.

Your questions, and my answers, are as follows.

- Q. You indicate that PennVest's criteria for evaluating applications for aid are (1) the severity of health threat and (2) the potential for economic stimulation. What about the credit worthiness or economic needs of the applicant? Do either of these criteria factor into your calculations?
- A. The economic needs and conditions of our applicants enter into our analysis when we are determining the amount and type of financial assistance to provide those who rank high enough for funding. Our legislation does not, however, provide for the use of economic conditions as a ranking factor to use in the project selection process.

When we provide financial assistance to our borrowers, we determine the terms of that assistance by estimating a target user rate that we believe the project's users can reasonably afford to pay. This target user rate is calculated by considering:

- o median household income
- o the percentage of the population over age 65
- o the percentage of the population having

- o incomes below the poverty level
- o the rate of population change in the community
- o the broad range of local economic conditions, as measured by the Department of Community Affairs index for local economic distress

Depending upon a community's scores on these factors, we will offer assistance ranging from a fully funded 1 $\frac{1}{2}$  loan for thirty years and a \$250,000 grant, to partial funding of the applicant's request at the maximum interest rates that our legislation will allow.

The fact that we are willing and able to offer only partial funding to those communities who we believe are financially better off allows us to stretch our financial resources to include more projects than we would be able to otherwise. We are hopeful that we will soon be able to work with the Department of Commerce to provide market rate financing as a part of the package offered to these better-off communities. This will allow us to further stretch our funding resources to reach even more applicants.

While our ranking system is based on public health, environmental benefits and job creation, we have nonetheless been able to accommodate the majority of financially stretched communities who have applied to us. Due to their lack of financial resources, these also tend to be the communities with the most severe wastewater treatment problems since they are often forced to postpone corrective actions for lack of funds. Consequently, they tend to find their way to the top of our rankings.

- Q. Some have advocated "leveraging" to capture additional capital to fund needed projects. Are there any current impediments to this approach that need to be removed? Are there incentives that should be added?
- A. The only modification that I would suggest regarding leveraging would be to allow states to combine funds that they use for other infrastructure financing with SRF funds.

For example, in Pennsylvania we run a large state-funded water and wastewater loan financing program in conjunction with administering the SRF. Under current rules, we must entirely segregate our state funds from our SRF funds. In order to leverage both our state and federal programs, we would have to issue two separate series of revenue bonds, incurring issuance costs twice and having two pools of loans pledged separately to each series of bonds.

It would be more efficient for us to be able to combine the repayments from all of our loans into one pledged pool, whether the underlying loans originate from state or federal funds. This would reduce issuance costs and would also create a larger pool of loans to provide security for our revenue bonds.

The combining of funds suggested here should include both state and federal funds for wastewater as well as drinking water. Concern for protecting the funding of particular types of projects could be accomplished by accounting for the monies devoted to each type of project within the combined fund, but still allowing for all of the loan repayments to be jointly pledged to the repayment of the same revenue bonds.

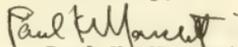
The modification suggested here would be of most benefit to programs that are smaller than Pennsylvania's. PENNVEST is already so large that we have captured most of the efficiency gains that would accrue from the suggested combining of funds. States with smaller programs, however, would benefit from the efficiency gains and would be better able to address the funding needs of smaller, less creditworthy communities by including them in a larger pool of pledged loans.

Q. Has Pennsylvania looked at privatization options for wastewater treatment construction or operation and maintenance?

A. I know that there are some groups in Pennsylvania interested in encouraging privatization, but PENNVEST is limited in its ability to provide assistance for such efforts. Current rules restrict our assistance to publicly owned treatment works. In addition, federal tax law limits the amount of tax exempt financing that can be provided to privately owned facilities.

I am hopeful that the legislation allowing us to work with the Department of Commerce on providing partial funding to applicants (see A. 1 above) will be enacted in the fall. We anticipate that this legislation will also allow us to provide more financial assistance to privately owned wastewater and drinking water systems. This would include efforts to privatize existing publicly owned systems.

Sincerely,



Paul K. Marchetti  
Executive Director

✓ cc: Joseph A. Italiano, Editor



DICK M. RICE  
KIM T. COON  
GARY W. EBERSOLE

County Commissioners  
Registration Commissioners  
County Board of Elections

## COMMISSIONER'S OFFICE

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GORDON E. STROUP  
County Solicitor

ANNA M. HINISH  
Registrar

TAMMY B. KENDALL  
Chief Clerk

July 27, 1993

Congressman Bud Shuster  
RD #2, Box 711  
Altoona, PA 16601

Dear Congressman Shuster:

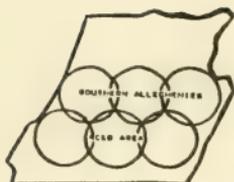
First I need to apologize for not answering your questions. I was not aware you had ask for this information till one of your staff called Ron Donland, the RC&D Director, last week and he in turn called me.

Please find enclosed answers to your questions and a proposal for passive treatment of sewage and acid mine drainage on the Little Conemaugh River in Cambria County which is part of the six county region Southern Alleghenies RC&D area. To our knowledge, this is the only such proposal we know of in the Eastern United States. We believe it will work.

If we can be of further help, please do not hesitate to call me at 623-4807 or Ron Donland at 623-7900 or write and we will respond immediately.

Sincerely,

Dick M. Rice



**SOUTHERN ALLEGHENIES  
RESOURCE CONSERVATION AND DEVELOPMENT  
AREA**

702 West Pitt Street  
Fairlawn Court  
Bedford, Pennsylvania 15522  
(814) 623-7900

O. On the last page of your testimony, you mention a possible treatment system for both sewage and acid mine drainage. Could you elaborate? Would this effort involve any innovative or alternative treatment (or pollution prevention) technologies?

A. Researchers involved with the construction of passive treatment systems for sewage and acid mine drainage point to the need for an experimental project to demonstrate a combine sewage/AMD treatment system.

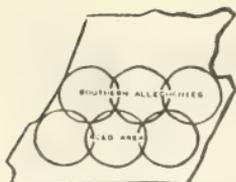
Researchers in Florida notice dramatic removal of phosphorus from secondary treated sewage effluent when combined with waters naturally high in iron. Iron and phosphorous will precipitate quickly as an iron phosphate mineral at a 1:1 ratio.

It has also been well documented that wetlands are great at reducing biochemical oxygen demand (BOD), and good at removing nitrogen.

According to the U.S. Bureau of Mines, secondary treated sewage effluent will increase the activity of sulfate reducing bacteria needed to remove metals and raise the pH of acid mine drainage.

A project near the Boro of Lilly in Cambria County has been identified as currently the best in our six county region to demonstrate the effectiveness of a combined sewage/AMD treatment system. If successful, this new technology could be applied in other locations from the Broad Top in the Southern Alleghenies to all states impacted by coal and metal mining.

As of this time, the Bureau of Mines is unaware of the existence of any sewage/AMD treatment systems in the United States.



**SOUTHERN ALLEGHENIES  
RESOURCE CONSERVATION AND DEVELOPMENT  
AREA**

702 West Pitt Street  
Fairlawn Court  
Bedford, Pennsylvania 15522  
(814) 623-7900

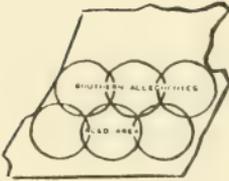
Q. What role, if any, should the Army Corps of Engineers have in addressing small and rural community infrastructure needs? Would the Corps, EPA, or some other agency be the best to administer programs involving technical assistance or other demonstration programs?

A. The Southern Alleghenies Resource Conservation and Development Council recognizes the valuable contributions made by the U.S. Army Corps of Engineers (USACE) in our area. Raystown Lake not only provides flood protection, but also supports a major tourism and recreation industry. USACE is also helping us study the problems and potentials of the Conemaugh River Basin.

However, we are concerned that USACE may not be the most appropriate agency to address small and rural community infrastructure needs. USACE procedures have been developed to conform to their previous authorities dealing with large projects such as Lake Raystown. It is extremely important that projects like Raystown be scrutinized to minimize their adverse environmental impacts. The USACE is also required to determine that the project's costs are exceeded by its benefits, in order to justify expenditure of federal dollars.

Small community infrastructure needs and water quality improvements should not require the same type of analysis. They do not consume large areas of wetlands or prime farmland; nor do they impound free flowing streams, altering flow regimes often vital to species downstream. Furthermore, water quality improvements in small communities often address long-standing historical degradation from mineral extraction, sewage disposal, and other activities. Restoring water quality to acceptable standards has positive cumulative downstream impacts that are difficult to quantify in terms of economic benefits.

USACE's requirements to do detailed cost benefit analysis, local and regional economic assessments, and other studies represents overkill. In many cases several projects could be accomplished for the cost of the studies. Such studies also place an additional (often unbearable) level of financial burden on local sponsors who are required to share 50% of the cost of USACE's studies. This process also tends to usurp local and regional authority. Small and rural community infrastructure needs have most likely already been studied by the local township supervisors, planning commissions, conservation districts, Southern Alleghenies Resource Conservation and Development Council, and other appropriate agencies and consultants.



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We suggest that consideration be given to vesting the Resource Conservation and Development Councils with the administration of programs involving technical assistance or other demonstration projects. Resource Conservation and Development Councils interact with other local and regional groups, and are in an excellent position to determine which agency can best respond to rural needs. For example, combined treatment systems for both sewage and acid mine drainage might best be handled by the U.S. Department of the Interior Bureau of Mines or the Office of Surface Mining. On the other hand, non-point agricultural pollution control projects such as the Evitt's Creek Watershed or Upper Raystown Watershed would best be handled by an agency such as the Soil Conservation Service, which deals regularly with farmers in the installation of best management practices. Other projects may require a holistic approach utilizing several different agencies.

Resource Conservation and Development Councils such as ours in the Southern Alleghenies are unique in their capability to work cooperatively with local, state, and federal agencies to solve problems of regional importance. The Southern Alleghenies Resource Conservation and Development Council would eagerly seize the opportunity to assist in maximizing the effectiveness of limited federal water resource dollars.

Because water quality improvement is often best accomplished by comprehensive projects involving expertise from several agencies traditionally confined to specific problems (i.e. mining, agricultural, industrial, sewage) it is important to be able to call on whichever agencies are most capable of addressing each problem. Furthermore, it is also critical to avoid the 50% cost sharing, which puts most significant projects out of reach of small rural communities.

LITTLE CONEMAUGH RIVER  
CAMBRIA COUNTY, PENNSYLVANIA

PROPOSAL FOR PASSIVE TREATMENT  
HUGHES NO. 2 BOREHOLE

I. HISTORY OF SEWAGE PROJECT

The Lilly/Cresson area in the headwaters of the the Little Conemaugh River has water quality problems from old acid mine discharges and untreated sewage being discharged directly to the river. This proposal is designed to address both pollutants through the construction of a 0.3 mgd, sewage treatment plant and artificial wetlands to recieve the STP effluent and treat AMD from a large borehole discharge.

The project began in June of 1992, with a meeting of the representatives of Lilly and Cassandra Boroughs and Washington, Cresson and Portage Township. The municipalities each had development constraints or Clean Streams Law compliance issues related to the lack of public sewage treatment.

Untreated sewage discharges exist in each of the municipalities. Each municipality has had to deny building requests both individual, residential and for housing and commercial subdivisions. Much of the area is unsuited to on-site treatment of sewage.

The area is located in the headwaters of the Little Conemaugh River and two tributary streams, Bear Rocks Run and Benscreek. The streams each are affected by AMD to some extent within the project area, although some aquatic life, including fish are present throughout the project area. Removal of raw sewage discharges is anticipated to improve the aquatic habitat for the affected portions of stream, primarily by reducing biologic oxygen demand (BOD). There will also be obvious public health benefits from removing the raw sewage discharges.

II. AMD TREATMENT PROJECT

The farthest point downstream in the Act 537 Plan service area is the community of Oil City. The treatment plant is proposed to be located immediately below that community.

Approximately one half mile below this site is a borehole (through a filled in shaft) discharge from the Hughes No. 2 Lower Kittanning deep mine. This mine is abandoned, although the successors still own extensive real property interests in the area.

The borehole discharges a high iron and aluminum, low pH stream of water that varies between 1,000 gpm and 3,500 gpm depending on seasonal water tables. The discharge has caused accretion mounds of iron to be deposited around it and covering an area of approximately (3) three acres. No aquatic life exists below the part where this discharge enters the Little Conemaugh River. Minnows and other aquatic life exist immediately up stream of the discharge.

This discharge is one of the 8 large deep mine discharges documented in the 1968-1972 EPA study of the Upper Kiskimetas river basin which are responsible for over 90% of the pollution load in the Little Conemaugh River system. It is the uppermost significant discharge in the watershed. Successful treatment of the discharge would restore aquatic life to more than 3 miles of the Little Conemaugh River.

The borehole is located within the flood plain of the Little Conemaugh River. The floodplain in this area comprises approximately 50 acres of ground below the discharge and 30 acres of ground upstream from the discharge. See Figure 1 for a map showing locations. The location is suitable for construction of a series of shallow ponds for AMD metal removal.

III. TREATMENT PROPOSAL

The sewage plant and collection system cost has been estimated in the Act 537 plan at between 10 and 12 million dollars. Steps are underway through the Central Mainline Sewer Authority to secure FHA funding for the project. The sewage treatment plan is marginal but possible with the high level of commitment from a majority of the local elected officials of the five municipalities.

The waste water treatment plant would discharge nutrient rich water as its effluent approximately ¼ mile above the borehole. The borehole itself is located in a flat flood plain area in which a series of shallow ponds could be excavated, and wetland plants established for passive buffering and metal removal. Literature on passive wetlands indicates that organic material used to create the wetland is eventually consumed by oxidation and microbial action during the process of removing iron and buffering pH. The effluent from the plant could provide a continuing source of organic material and renewal to the wetlands. Because STP effluent typically has a much higher pH than AMD, the effluent will also enhance the precipitation of aluminum, iron and manganese and removal of trace metals in the ponds.

The passive wetland system would include ponds and basins covering approximately 70 acres, a low wall along the Little Conemaugh River to prevent a channel being cut into wetlands area, some stream relocation, and one half mile of effluent pipe and a bore under a 200 foot wide railroad embankment. Rough costs of such a project would be (7) seven million dollars.

\$2,500,000	earth moving
\$ 100,000	clay basin liners
\$ 500,000	wetland substrate (placement & mixing)
\$ 600,000	lime stone diversion wells (3)
\$ 300,000	access roads to diversion wells
\$ 700,000	re-drilling new boreholes, grouting old shaft
\$ 750,000	retaining wall ¼ mile
\$ 500,000	pipeline c boring

\$ <u>125,000</u>	stream relocation
\$ <u>50,000</u>	habitat improvement in stream
\$ <u>100,000</u>	flow control at discharges
\$ <u>100,000</u>	wetland plants & planting
\$ <u>125,000</u>	rip rap, limestone substrate
\$ <u>100,000</u>	water quality monitoring
\$ <u>200,000</u>	engineering design
\$ <u>200,000</u>	engineering inspection
\$ <u>100,000</u>	misc. administration (audit, legal, etc.)
\$ <u>200,000</u>	property acquisition (treatment and access for public use after completion)
<u>\$7,250,000</u> TOTAL	

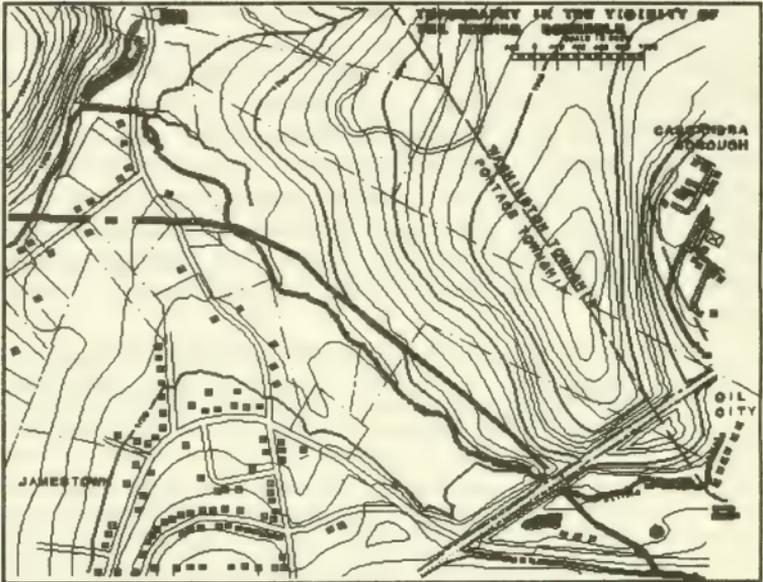
The next large AMD discharge point is near the Portage Sewage Treatment Plant downstream of the Borough of Portage, more than 3 miles (along the River) from the Hughes site. The river and two tributaries (Noels Creek and Benscreek) contain a substantial and varied aquatic life including native brown trout populations which will re-colonize the three mile portion of the Little Conemaugh River almost immediately. Public access for fishing, canoeing and hiking would be obtained as part of the property acquisition process.

Operation of the facilities would include three components:

1. Operation of the STP by the Central Mainline Sewer Authority to secondary treatment standards as set forth in an NPDES permit, measured at the discharge into the wetlands.
2. Monitoring, cleaning and refilling with limestone of a tumbling device to treat the AMD discharge. A limestone stockpile would be maintained on-site through a contract between the DER and Department. The ideal solution would be a cooperative effort with the local sewage plant, as an alternative local Sportsmen's groups have indicated a willingness to check and fill the tumbler. The County of Cambria could provide back-up through its park department.
3. Ponds and basins will have to be checked for integrity on a regular basis. Repair and maintenance of the ponds would be worked out with the Sewage authority.

This proposal is put forward by the StoneyCreek, Conemaugh River Improvement project and the Little Conemaugh Project being carried out by the Cambria County Conservation District and the Cambria County Mineral Assessment Office. Discussions have been had on a preliminary basis with the two major landowners and members of the Central Mainline Sewer Authority. If there is an interest in funding such a project specific agreements, allocations of responsibility for maintenance and negotiations on responsibility for the AMD site can be worked out. The cost figures set out above contain costs associated with moving the STP one half mile down to the downstream side of the railroad embankment. Some of the project funds would be expended in defraying this cost to the STP.

Figure 1





Mr. APPLEGATE. Well, it seems to me, after two days of hearing people coming in representing the various States and expressing their views, that we're all pretty much singing the same tune and pretty much the same lyrics, with maybe just a slightly different beat on some of them, but I think pretty much uniform in thought, and it's obvious that something has to be done to help small town America and rural areas to meet these mandates and perhaps to even soften some of the time requirements and all.

It's going to be a big job to come up with something that's going to be applicable to everybody. We can't do that. But to be agreeable with everybody is also going to be very difficult, but it's something we're going to have to do if we're going to get something passed. So we'll be looking forward to future meetings in the next few weeks. We'll be setting forth some additional meetings trying to find out what direction it is that we need to take.

I think it's been pretty much expressed that we need a grants program and we need a continuance and an increase in the loan program, and the two to work together, and to help provide for management, technical assistance, as well as the construction needs in order to meet what it is that the EPA has set forth upon the Nation.

So we will be looking forward to more of your input, and I personally want to thank you very much for taking time out of your very valuable and busy schedules to come before the Congress, before the committee, and give us your ideas and views. Thank you very much.

[Whereupon, at 12:20 p.m., the subcommittee adjourned, to reconvene subject to the call of the Chair.]

PREPARED STATEMENTS OF WITNESSES

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STATEMENT OF DON BERRYHILL, FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION, DIRECTOR OF LOCAL  
GOVERNMENT FINANCIAL ASSISTANCE PROGRAM

The Florida DER is divided into six districts. The district that I represent has 19 counties with eighteen of those 19 counties classified as small. Populations range from approximately 100,000 people in Clay County to less than 10,000 people in Gilchrist County. There are pockets of unemployment which are some of the highest in the state, such as in Taylor County, and a fairly high percentage of the population is under the poverty level. The people have a desire to protect their environment, but finances are limited, and they are unable to provide and maintain a modern wastewater treatment facility.

The problem that many of the existing wastewater plants have is twofold: first, many of the municipal plants have not set aside sufficient funds for capital expenditure because of the need to key the rate structure within the income level of users. These plants generally have not been upgraded with modern technology so operation and maintenance costs are high. Many of the cities must fund the operation

of plants from other municipal funds. It is generally accepted that wastewater utilities are not self supporting. The other complication with existing facilities is the wastewater collection infrastructure. As collection systems age, the pipes get out of alignment or deteriorate which allows groundwater to enter the pipes and results in infiltration. Another problem is that connecting structures, such as manholes, can fail and allow surface water to enter the system during rainfall events. This is known as inflow. Both infiltration and inflow (I&I) can tremendously add to the treatment cost by reducing the capacity of the treatment plant. The facility will not only be treating wastewater, but also groundwater and surface water.

For existing plants, capital improvement money is necessary to repair collection systems to reduce inflow and infiltration. Moreover, capital is needed to modernize wastewater treatment plants to reduce the operation and maintenance cost and meet environmental standards. However, the utility rate structure must be able to provide and set aside funds necessary to provide capital improvement.

While inflow and infiltration presents a formidable cost obstacle, the need for new sewage treatment plants presents an equal challenge. Some communities have experienced slow

growth patterns, thus regional sewage systems have not been established. There are communities now with populations large enough for a wastewater treatment system but do not have the financial stability to provide that service. Private enterprise is not very interested in these systems because there is limited potential for profit.

Two criteria should be used to determine the need for municipal treatment systems. The first and foremost concern should be public health. If private on-site sewage systems are failing due to a high groundwater table and geological features, then a municipal system would provide a greater level of protection for the citizens. Secondly, environmental or natural resource issues may require the construction of a municipal system. An example of this is a small town on the gulf coast which had all residents on private individual systems. These systems were failing due to high groundwater. The offshore shellfish beds were closed due to high bacterial counts and a six million dollar annual business was lost. Luckily, with help from the federal government, a grant and loan was secured to build a municipal system and the potential to recover that lost industry was provided. The federal grant was necessary to keep the service fees low enough so that the citizens could afford the utility.

The two wastewater problems that are apparent are the need to put capital into existing systems to modernize the treatment system and repair the collection systems and secondly, the need to build new treatment plants where public health or environmental resources are in danger.

These small communities have to treat their wastewater to the same degree as do major municipalities, but they do not have the tax base to support the modern technology and equipment needed.

In dealing with the citizens of these small communities I've learned that they are sincere, dedicated, hard working people. They really want to do what is right, the money just isn't there. As we provide them with the resources they need, we will be protecting the environment not only for them, but for all of us.

## Testimony by

J. Dale Givens, Assistant Secretary  
Louisiana Department of Environmental Quality  
Office of Water Resources

February 24, 1993

Mr. Chairman, members of the committee, good morning! My name is J. Dale Givens. I am the Assistant Secretary for the Office of Water Resources of the Louisiana Department of Environmental Quality (LDEQ). The purpose of my testimony this morning is to explain the problems we face in Louisiana with trying to get rural communities into compliance with Federal and State environmental regulations concerning sewage treatment.

Improperly treated or untreated discharges of sewage are a significant cause of water pollution and can be a source of human health problems for those who use the water bodies that receive the waste water. As you are aware, proper treatment and disposal of sewage is required by regulations of the U. S. Environmental Protection Agency. The State of Louisiana also has similar regulations. While designed to protect human health and the environment, these regulations often result in the need to construct expensive waste treatment systems and supporting infrastructure such as collection systems to transport the waste water to the treatment facility. Waste water treatment needs surveys have indicated the need for facilities and collection systems at a cost in excess of one billion dollars in Louisiana.

Financing projects that require major expenditures of capital can be very difficult for large cities that have a significant tax base. Financing such projects by rural communities that have a very limited tax base can be impossible without an outside source of funding. In addition to tax dollars, funding for these types of projects is usually limited to funds from one of the following: A) State Revolving Fund (SRF) loans, B) CDBG grants and C) Farmers Home Administration (FHA) which has a loan program and limited grant capability for poor communities.

The SRF loan program is providing critically needed funding to both large cities and smaller cities and towns. However, constraints placed on the program by federal regulations makes it very difficult for some communities,

(J. Dale Givens page 2)

large and small, to obtain funds from this program (Title II requirements, affordability, etc.). Many communities simply cannot afford a loan from this program even though Louisiana currently has recently established an interest rate of 2.95% for these loans to try and make them more attractive.

The CDBG program is often turned to by small and rural communities for funding for waste water treatment projects. In FY 92-93, fifty seven communities applied for CDBG funding for waste water treatment projects. Only ten projects were funded (18 percent). The program, at least in Louisiana, has a cap of \$750,000 per project.

Community	CDBG Grant
	Amount
Abite Springs	\$626,288
Bonita	\$399,997
Cheneyville	\$219,993
DeQuincy	\$740,300
Independence	\$750,000
Mermentau	\$405,216
New Llano	\$750,000
Newelton	\$749,538
Oakdale	\$269,670
Ringold	\$435,067
<b>Total</b>	<b>\$5,346,069</b>

As more communities attempt to come into compliance with the environmental regulations, the demand on this source of funds will increase and the program cannot keep up with the need at the present funding rate.

The LDEQ assists the State Division of Administration with the CDBG program by ranking the proposed projects each year. Factors used in determining the ratings include Affordability, Enforcement History and Environmental and/or Human Health Impact. In order to attempt to help the smaller communities LDEQ, this year, modified the factors used to rank the projects and assigned a factor of 1 to 10 for affordability with 10 indicating that the community could not afford to implement the project. That factor was then multiplied by 0.60 to determine the affordability weighting for the project (affordability became 60% of the Final Rating). The affordability factor was determined by working with the Department's Municipal

(J. Dale Givens page 3)

Facilities Division (the program area that operates the SRF program) and using their formulas for this purpose.

The Farmers Home program, while being a last resort for funding that has rescued many small or rural community waste treatment projects, cannot begin to make up the difference for waste water treatment projects that cannot obtain funding from either the SRF or CDBG programs. Clearly, additional funding and funding mechanisms are needed to aid the rural and small communities.

Although not a steady or reliable source of funding, the LDEQ's Office of Water Resources (OWR) has recently began encouraging companies that are in negotiation concerning an environmental penalty assessment to consider dedicating all or a portion of the settlement amount towards projects in the local community where the alleged violations occurred. An example of such a settlement agreement is a case where a \$60,000 settlement is being dedicated to a community for the construction of a new lift station to help provide sewage collection and treatment for an unsewered section of the town. The LDEQ/OWR has also entered into a Memorandum of Understanding with the U. S. EPA's Region VI concerning enforcement activities whereby communities that are under compliance orders from EPA for violations concerning waste water treatment can receive extended compliance schedules if they are planning to fund the project through the SRF program. This is to allow for the extra time required to meet the requirements of that program. Perhaps, this same concept could be extended to communities awaiting funding through CDBG or other grant or loan programs.

The sewage treatment needs of Louisiana communities as is the case with many communities nationwide is great. The obstacles to funding these projects, particularly with regard to the small or rural community can be overwhelming. Your assistance in helping to provide a mechanism that includes additional funding and less red tape to qualify for the funding and to construct the project will be greatly appreciated.

Statement of

Paul K. Marchetti

Executive Director  
Pennsylvania Infrastructure Investment Authority  
Commonwealth of Pennsylvania

and

Vice President  
Council of Infrastructure Financing Authorities

Before the Water Resources and Environment Subcommittee  
of the House Public Works and Transportation Committee

Washington, DC  
February 24, 1993

Good morning. I am Paul K. Marchetti, Executive Director of the Pennsylvania Infrastructure Investment Authority (PENNVEST) and Vice President of the Council of Infrastructure Financing Authorities (CIFA).

In both capacities, I have experience with the funding of wastewater and drinking water projects in small communities and rural areas. This experience is the basis for some suggestions for how the State Revolving Fund (SRF) program might be modified to better address these funding needs in the future.

PENNVEST was created by Governor Robert P. Casey in 1988 to address the pressing water quality problems that plagued Pennsylvania at that time. The Commonwealth led the nation in cases of water-borne disease and a third of our sewer systems were under connection bans or limitations. These conditions were not only environmental concerns but also inhibited economic growth and

job creation across the Commonwealth. The Governor saw PENNVEST as a mechanism for addressing both of these issues simultaneously.

PENNVEST was initially capitalized by \$1 billion in funding for both drinking water and wastewater projects. Approximately three fourths of the capacity came from the state, with the balance coming from the federally funded SRF. Much of the state's contribution, and all of the federal contribution, is comprised of revolving funds that are used to make loans whose repayments remain with the PENNVEST program. Thus, we are also able to issue revenue bonds to finance additional projects in the future (\$142.5 million have been issued to date).

Pennsylvania's voters in 1992 added an additional \$350 million in state borrowing capacity to fund more projects. This referendum also expanded PENNVEST's financing authority to include storm water projects.

PENNVEST was created to serve the clean water financing needs of all Pennsylvanians, with a particular emphasis on small systems and rural areas. Pennsylvania has approximately 2,500 community drinking water systems and almost 4,000 wastewater systems. Seventy-five percent of these systems are small (defined as having fewer than 1,000 connections). Taking drinking water systems alone, approximately 85 percent are small. Pennsylvania also has the largest rural population in this country. Of our 67 counties, 55 are considered rural (defined as having a population of 200,000

or fewer).

PENNVEST financial assistance is comprised primarily of low-interest loans, although a small amount (five percent) is grants. The interest rates on our loans range from a minimum of 1.0 percent up to a maximum of five to six percent, depending upon prevailing market interest rates and other economic conditions. We average about 2.2 percent. For any individual project, we can provide up to \$250,000 in state funded grants. However, we never allow grants to constitute more than 50 percent of our assistance to a project. We will also extend the term of our loans to 30 years in cases where even a 1.0 percent loan and a maximum grant is not enough to make a project reasonably affordable. We can, of course, only do this with state funds.

The interest rate that we charge a borrower, as well as the amount of grant funding, if any, that we provide, is determined by a comparison between the costs of a project and the financial capability of the project's users to pay for it. Smaller, more economically disadvantaged communities will receive proportionally larger interest rate and grant subsidies than will other borrowers, simply because the typical water or sewer project is large and expensive relative to the user base available to repay our loan.

Since its inception in 1988, PENNVEST has provided \$1.082 billion in funding to 656 drinking water and wastewater projects across the Commonwealth. Of these funds, \$349 million (32 percent)

have gone to small systems, which comprise almost 60 percent of the total number of projects we have funded. These systems have also received 79 percent of our grant funds. From a slightly different perspective, \$498 million of our assistance (46 percent) has gone to rural areas. Fifty five percent of the projects we have funded are in these areas. This is not to say that urban areas have been neglected by this program either. For example, we have made a \$20 million loan offer to the City of Philadelphia. Other urban areas in the Commonwealth have received similarly large loans from PENNVEST.

In addition to the environmental benefits that PENNVEST has created across the Commonwealth, the program has also helped create 13,500 permanent jobs in this state, in addition to approximately 41,000 direct construction jobs.

As I said earlier, PENNVEST was designed to address the water quality problems of all Pennsylvanians, with a particular emphasis on small systems and rural communities, due to their prevalence across the Commonwealth. As our experience shows, this program design has worked extremely well. Two provisions in our enabling legislation greatly contributed to our being able to focus the program on small, rural communities. First, total assistance available for any individual project is limited to \$11 million, unless a project serves multiple municipalities, in which case assistance can go as high as \$20 million. Only in limited circumstances can total assistance to any single project be raised

above this level. Second, and more importantly, our project ranking and selection process is independent of system size. Consequently, small systems stand on an equal footing with larger systems in our evaluations. It is the severity of the public health problem being corrected, as well as the potential for economic development that will be stimulated, that determines an applicant's chances of being funded.

There are some other aspects of the PENNVEST program that warrant consideration by this subcommittee for modifying the SRF program to better address the needs of small systems and rural communities. I recommend this subcommittee's consideration of these suggestions, both as Executive Director of PENNVEST and as Vice President of CIFA. These programmatic modifications have worked to the benefit of small systems in Pennsylvania. As CIFA has pointed out in various contexts, we also believe that they could work equally well in other states if the SRF were changed to allow for them.

#### Extension of SRF Program to Drinking Water

There are many small communities in Pennsylvania and other states struggling to comply with the provisions of the Safe Drinking Water Act. PENNVEST has been using funds to help such systems since 1988. In many other states, either the political commitment or financial capacity to do this has not been present. Even in Pennsylvania, despite our large commitment of state

financial resources, we still face a considerable backlog of unfunded drinking water projects.

Expansion of the SRF mechanism to include drinking water would provide a tremendous benefit to all the states. We welcome the Administration's recent proposal to do this.

#### Loan Principal Write-Down

In cases where even a zero interest loan will result in user rates that are excessive relative to project users' ability to pay, states should be able to write-down a portion of the SRF loan principal as a grant. Similarly to how PENNVEST provides grant funds, however, there should be restrictions imposed on how states do this, in order to maintain the financial viability of the SRFs. Absolute dollar caps should be considered. At a minimum, there should be a limitation on the percentage of a project's financing that can be comprised of grant funds (however these funds are provided). In order to ensure long-run financial responsibility and project design and maintenance efficiency, some loan pay-back should always be expected of SRF recipients. As stated above, PENNVEST always requires at least 50 percent loan funding in the assistance that we provide for any project. While this may not be the appropriate percentage for all states, some similar expectation should be considered for the SRF.

#### Extended Loan Payback

In cases where the user rate that will result from an SRF project is higher than what is reasonably affordable, states should be allowed to extend the term of their SRF loans beyond 20 years. In PENNVEST, we will go out as far as 30 years. I suggest this as a reasonable maximum although, again, the needs of other states may differ. A reasonable standard for the loan term maximum is the design life of the facility being built. Whatever maximum term is chosen, this allowance for some extension beyond the current limit of 20 years would help ease the financial burden facing small system users.

I believe that these changes to the SRF program would help it more adequately address the needs of small systems and rural communities. In addition, expanded funding of the SRF program would serve to help both small and large communities alike. Both PENNVEST and CIFA endorse the Administration's proposal to expand and extend SRF funding, although this still leaves unfunded a large amount of wastewater and drinking water needs across the country. On behalf of both PENNVEST and CIFA, I encourage the subcommittee members to explore ways of channeling even more funding into the SRF program.

This concludes my testimony. I want to thank the subcommittee for the opportunity to appear here today and I would be glad to address any questions that you might have.

<b>Testimony to the Water Resources and Environment Subcommittee</b>
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**Keith S. Porter, Director**  
**New York State Water Resources Institute**  
**Cornell University**  
**February 24, 1993**

It is my purpose to summarize the application of the Clean Water Act to small community wastewater treatment systems. For many such systems, the current forum of the Clean Water Act is inadequate. This inadequacy is well illustrated by our ongoing experience in the New York City Watershed Region. I wish to refer to that experience to illustrate my arguments.

The New York City Water Supply is the largest integrated system in the world. It embraces a watershed region of approximately 2,000 square miles and serves almost 10,000 people with very high quality water. It is the need to preserve that high quality which poses contention problems for residents in the watershed served by wastewater treatment facilities. In its understandable determination to protect the integrity of the water supply for which it is responsible, the New York City Department of Environmental Protection is reluctant to permit increases in flows from the wastewater treatment plants within its watershed region. The consequent restriction in community economic growth increasingly jeopardizes the future economic and social vitality of the communities within the watershed.

New York City is compelled to act as a responsible agent in implementing the Safe Drinking Water Act. This Act virtually requires pollution prevention. Management of wastewater treatment however, customarily falls under the Clean Water Act. This Act traditionally has emphasized the remediation of pollution and not its prevention. Such an emphasis is a double misfortune for small community wastewater systems such as those in the New York City watershed. First, New York State has many large urban and industrial areas. In targeting priorities, small community systems do not

figure prominently, and, therefore, receive relatively little consideration. In addition, where a watershed has high quality water, there has been even less incentive under the Clean Water Act to give much priority to wastewater treatment since there is no apparent need for remediation.

As a result, we now find ourselves ill-equipped to determine how best to assist these communities when they are now required to meet very high standards in their discharges. These wastewater systems may have highly variable flows which are only irregularly monitored at best. This variability is greatly augmented by the influx of visitors seeking seasonal recreation as regularly occurs, for example, in the New York City Watershed. The level of training in the operators of the works may be variable. It is perhaps, therefore, not surprising that New York City is attempting to meet their problem by the simple expedient of discouraging increases in hydraulic and pollutant loading from such wastewater treatment facilities in its watershed. The communities are consequently compelled to accept a de facto "no growth" restriction. This would be disastrous economically and it is critical to develop an alternative, which at the same time does not place the water supply of New York City at unacceptable risk.

The collision between the need to protect high quality water, and the necessity for communities to continue to live, work, and play in the watersheds which produce those waters is likely to become a more frequent dilemma throughout the nation. It poses the increasingly experienced conflict between environmental and economic interests. For our society to be sustainable it is imperative this conflict be resolved.

The solution for watershed communities requires the following: the first step is to determine the "carrying capacity" of the watershed relative to the water quality standards it is expected to sustain. This means each wastewater treatment facility should be planned and managed in its watershed context. The determination of permissible levels of discharge should be calculated by explicitly taking into account the cumulative impact of all potentially significant sources of pollution in the watershed. This calculation allows a target level of discharge from each wastewater facility to be determined rationally.

Once the discharge levels are established, communities and industries responsible for the discharge should be allowed to formulate best treatment options by which the required performance standards can be met. By such procedures, it should be possible for treatment facilities to be extended to accommodate growth while remaining in compliance with the target levels established by the calculated carrying capacity of the watershed.

This strategy, especially in rural areas and where communities are small, can only be successfully implemented with new support and technical guidance. Small communities typically lack highly technical capacities, nor do they usually have the means to develop them. It is also highly desirable that communities be encouraged to participate in the planning and management of their wastewater treatment facilities. The Clean Water Act has most successfully fostered public participation in the past. It is highly desirable in the future to foster a sense of ownership and stewardship in small communities where limited means and knowledge otherwise impedes successful adoption of pollution prevention measures. It is, therefore, also desirable that technical assistance be provided to the small businesses and industries upon which the economies of rural and small communities crucially depend. Without such assistance, it is less likely that most appropriate wastewater treatment techniques and technologies will be selected and adopted.

Finally, I note that section 303(d) of the current Clean Water Act already encourages planning wastewater management on a watershed level. This encouragement should be taken further to require integrated planning and maintenance of watersheds. This is especially needed where the water resources produced are of high quality such as in the case of New York City. If this is accomplished with appropriate technical guidance and support, then we have the best chance to have our economic and environmental interests meet in union rather than in conflict.

**TESTIMONY OF  
CABINET SECRETARY JOHN RANSON  
WEST VIRGINIA DEPARTMENT OF  
COMMERCE, LABOR AND ENVIRONMENTAL RESOURCES  
BEFORE THE  
WATER RESOURCES AND ENVIRONMENT SUBCOMMITTEE  
OF THE  
PUBLIC WORKS AND TRANSPORTATION COMMITTEE  
FEBRUARY 24, 1993**

Mr. Chairman and members of the Subcommittee, I appreciate this opportunity to appear before you today to discuss a matter of vital importance to the state of West Virginia -- the funding for municipal waste water treatment facilities in small communities.

West Virginia is a rural state comprised of small communities scattered across a mountainous and beautiful terrain. While these attributes give West Virginia a quality of life unparalleled along the Eastern Seaboard, they also serve to make the funding and construction of publicly-owned water pollution control facilities a challenge.

Over the past 20 years, West Virginia has relied on the U.S. Environmental Protection Agency's Construction Grant Program to fund the construction of waste water treatment facilities. Even though the program was overly burdened by red tape and many projects took too long to complete, more than \$1 billion was spent in West Virginia on water pollution control projects. This \$1 billion represents the construction of 117 sewage treatment facilities and 84 separate collection systems.

West Virginia has made great strides in the past 20 years, and we recognize that we must do more. From an environmental and economic development standpoint, adequate funding will be required if we are to meet our waste water treatment needs over the next 20 years.

A recently completed statewide needs survey shows that West Virginia must have an additional \$2.1 billion to construct 646 municipal waste water treatment facilities. Nearly all of these projects, 97 percent, would benefit communities with populations of 10,000 or less. This information will be included in the EPA's "1992 Needs Survey Report to Congress" due this summer.

The 10,000 population figure also has been used nationally to define small communities. In some instances, a 3,500 population figure has been used to define a small community.

In West Virginia, 86 percent of the proposed facilities, representing about \$1.6 billion in needed funding, would benefit communities with populations of 3,500 or less. If we can accomplish this, then we would have satisfied three-quarters of our unmet waste water treatment plant construction needs.

As you can see, when we talk about small community problems, we are essentially talking about the entire state of West Virginia. The challenge for all of us then is to ensure that funding is available to invest in the infrastructure of our small communities.

The 1987 Water Quality Act eliminated the federal Construction Grants program and replaced it with the low-interest State Revolving Fund (SRF) loan program. Under the program, the federal government would supply grants to states through 1994. These grants, coupled with a 20 percent state match, would then be used to finance water pollution control projects in perpetuity. Each state has implemented an SRF program.

The logic behind the SRF program was, and remains, fundamentally sound. However, the likelihood of a small, financially-strapped community participating in such a loan program was evidently overlooked.

I wish I could tell you today about success stories related to SRF in West Virginia. Unfortunately, I cannot.

We are making loans at a snail's pace, because even with zero percent interest, many small communities in West Virginia simply cannot afford the cost. The move away from a construction grants program, where a community only needed to borrow up 45 percent of a project's cost, to the 100 percent SRF loan program has eliminated most small community projects in West Virginia.

To help you understand how a small community's project can be impacted by a total loan program, I provide the following examples:

- 1) The 660-person community of Handley in Kanawha County constructed a collection system using a 55 percent EPA grant. The average monthly sewer bill is \$22.99. If Handley had to rely on a zero percent interest

SRF loan, the average monthly sewer bill would have been \$31.60, a 37 percent increase.

2) The town of Buffalo in Putnam County built a treatment plant and collection system using a 55 percent EPA grant. The average monthly sewer bill for this town of 1,512 people is \$26.91. If forced to rely on a zero percent interest SRF loan, the community's average monthly bill would have been \$38.53, a 43 percent increase.

3) The Flatwoods-Canoe Run Public Service District covers 2,722 people in Braxton County. A 55 percent EPA grant was used to construct a treatment plant and interceptors. The PSD's average monthly sewer bill is \$28.12. If a zero percent interest SRF loan had been used, the monthly bill would have been \$48.74, a 73 percent increase.

To determine the extent of the funding problem, we examined 20 communities which had received EPA grant awards. During our review, we substituted the grants with zero percent interest SRF loans.

Of the 20, only four communities -- with populations ranging from 3,975 people to 8,945 people -- would have been able to afford their projects. As you can see from these examples, small communities, especially those with populations of 3,500 or less, cannot take advantage of the SRF program as it is currently constituted.

West Virginia's mountainous terrain adds further complications and costs to the development of waste water treatment plants. Our state's geology and geography combine to increase the construction costs to the point where many projects are more expensive than similar projects in non-rural areas of the country.

These natural constraints, coupled with a change on how we are to pay for the construction of waste water treatment projects, causes us to worry about the future of West Virginia's pollution abatement efforts and economic growth.

The need and cost to construct water pollution control facilities in West

Virginia is great. However, the current SRF loan program, as authorized under Title VI of the 1987 Water Quality Act, is TOO RESTRICTIVE for the small communities of our state. Changes to make the program more attractive to small communities is necessary if infrastructure investment and pollution abatement are to occur.

Under the SRF program, projects can be built more efficiently and at reduced cost. Also, a loan fund can grow through investments and loan repayments. Therefore, we believe amending the SRF program under Title VI is the preferred method for future waste water project funding.

We urge Congress to seriously consider the following recommendations when reviewing the reauthorization of the Water Quality Act:

Recommended Amendments to Title VI of the 1987 Water Quality Act to Give States Greater Flexibility in Funding Small Community Projects

1) Additional funds should be authorized under Title VI to provide subsidies (grants) with a low interest SRF loan. States also should have the flexibility to reserve no more than 40 percent of existing fund authorization levels under Title VI for use as subsidies to small communities with financial hardships.

While some states obligate their SRF funds as quickly, some states, like West Virginia, currently have excess funds available simply because of the cost issue. Being allowed to reserve a portion for use as subsidies would enhance the program's attractiveness to small communities and obligate these excess funds.

The definition of financial hardship should be left to each state's discretion. The definition of a "small community" should also be left to each state, but not to exceed a population of 10,000.

2) The repayment of loans should be extended from the current 20 years to 40 years for smaller communities. This would make sewer rates more affordable to customers in smaller communities.

- 3) Exemption from Title II requirements and other federal laws and requirements to eliminate red tape and delays. The 23 additional federal laws and executive orders, such as the archeological, historical and endangered species acts, tend to increase a project's cost and discourage program participation.
- 4) Allow SRF administrative funds to be used for small community outreach and technical assistance.
- 5) Allow land acquisition and easements to be considered as eligible costs. This exclusion appears to have been an oversight when the Act was passed in 1987.
- 8) Allow SRF loans to be used on the same project in communities that have received Title II construction grants.

In West Virginia, 24 communities with construction grants are having trouble getting their projects to the bidding phase because of financial constraints. These grants may be terminated by the EPA if construction doesn't start soon.

We see no logical reason why this additional restriction was inserted into Title VI in 1987. Getting projects built should be our main concern.

Collectively, the above recommendations would enable our SRF program to accommodate our small communities.

While small communities are our Number 1 priority in West Virginia, we believe additional amendments to Title VI of the 1987 Water Quality Act are needed to make the administration of the SRF program more efficient.

These additional recommendations include:

- 1) The 4 percent limitation on administrative costs within the SRF will seriously affect us in future years. This maximum amount should not apply to the SRF loan repayment or other money deposited in the Fund (Section 603 (d) (7)).
- 2) The 20 percent limitation on the use of funds for certain categories of

projects should not apply (Section 201(g)(1)).

3) The 20-year amortization period should be extended to 30 years generally for any size community.

4) And finally, the SRF authorization period should be extended beyond Fiscal Year 1994 so we can meet our total needs assessment statewide.

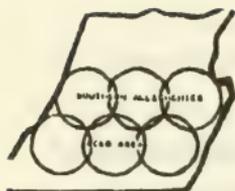
In fact, the National Governor's Association has recommended that \$5 billion per year be authorized in fiscal years 1994 to 1997. We support that recommendation as a minimum.

The Congress created the State Revolving Fund program as a way to finance waste water projects in perpetuity. It was a great idea - for most states.

Now, we need to amend the program to make it workable for small rural states like West Virginia.

We need a program that can help everyone from the largest city to the smallest community. I urge you to give us these suggested changes and then stand back and watch us go to work.

Thank you.



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Statement of

Mr. Dick Rice  
Board Member, Southern Alleghenies Resource  
Conservation and Development Council

before

U.S. House of Representatives  
Committee on Public Works and Transportation  
The Subcommittee on Water Resources and Environment  
[sewage treatment needs of rural and small communities]  
Washington, DC

February 23, 1993

Mr. Chairman:

Thank you for the opportunity to provide testimony on behalf of the Southern Alleghenies Resource Conservation and Development Area. The Southern Alleghenies Resource Conservation and Development Area consists of approximately three (3) million acres in Southcentral Pennsylvania (see attachment). Less than 500,000 people reside in our counties of Bedford, Blair, Cambria, Fulton, Huntingdon, and Somerset. This low population density classifies our area as primary rural.

The loss of jobs and industry in the region has had a severe impact on the economic viability of many small communities and all levels of local government. The 1990 census figures show that we have lost both jobs and population since 1980.

Like many rural areas we have higher unemployment and lower per capita income than our urban neighbors. We also have a higher percentage of elderly people on fixed incomes.

Our area has a large number of existing on-lot sewage disposal systems which are malfunctioning and are contributing to the contamination of both surface and groundwater resources. This not only degrades water quality, but also poses a serious health threat as evidenced by many documented cases of spring and well contamination.

The cost of providing needed sewage facilities has often exceeded the financial capabilities of our communities. Sewer projects are more expensive per capita in rural areas than in urban areas due to the lower population densities.

Inadequate levels of funding to rural areas coupled with increased emphasis on loans rather than grants has made it extremely difficult for small rural communities to comply with state and federal sewage regulations. Areas such as ours have an insufficient population base to support loan repayment, and often are unable to even pay for preliminary planning and engineering.

In order to address rural waste water needs we recommend the following proposals for your consideration:

- 1) Work with states to develop a grant/loan program that truly reflects the needs of Rural America and the higher per capita cost of sewage facilities in small communities. More grants, lower interest loans and longer repayment terms would be a good first step. Underwriting the local cost of planning and engineering would also be an important incentive to communities with limited resources.
- 2) Encourage the development of standards and specifications for a package treatment plant that would solve many rural communities' needs without requiring large engineering costs for individual designs and similarly large construction expenses.
- 3) Work with states to encourage projects to demonstrate alternative sewage treatment systems. Few rural communities have municipal systems because of the expense of conventional systems. The state and federal governments have not provided sufficient funding and technical support for the development of alternative systems which may better fit a rural

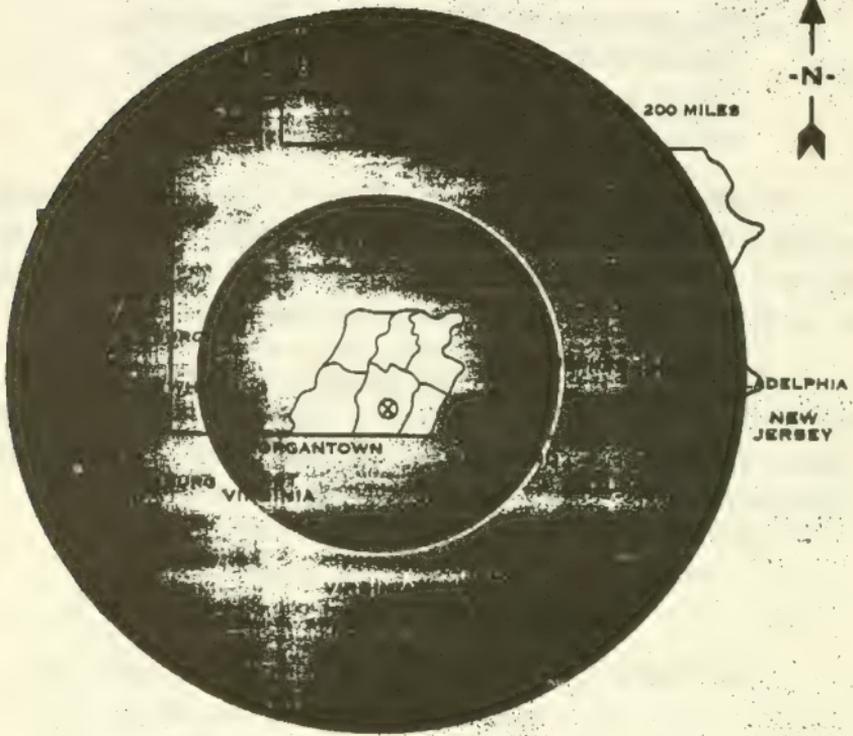
community due to the availability of abundant relatively inexpensive land.

Demonstration projects which provide solutions to unique problems in rural areas should receive the highest priority. An example in our region could involve the development of a treatment system for both sewage and acid mine drainage. The successful implementation of such a system could dramatically improve water quality in many streams currently polluted by sewage and mine drainage.

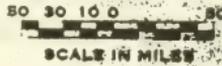
Implementation of strategies like these will go a long way towards meeting the sewage treatment needs of rural and small communities. Not only will we be improving water quality, but we will also be increasing our ability to attract jobs and improve our standard of living.

I thank all the members of this committee for your assistance in helping the Southern Alleghenies Resource Conservation and Development Council, and Resource Conservation and Development Councils throughout the nation, to build a stronger Rural America.

LOCATION MAP  
SOUTHERN ALLEGHENIES RC&D AREA



⊗ SOUTHERN ALLEGHENIES RC&D OFFICE, BEDFORD, PA



**Testimony of the  
 Association of State and Interstate  
 Water Pollution Control Administrators  
 Before The  
 House Subcommittee on Water Resources and Environment**

February 24, 1993

Mr. Chairman, members of the Committee, I am Roberta Savage, Executive Director of the Association of State and Interstate Water Pollution Control Administrators (ASIWPCA).

We appreciate the opportunity to appear before the Subcommittee on behalf of the Association to share the views of State administrators of Clean Water Act programs related to rural and small communities. Infrastructure needs are difficult for large and medium size communities to address. But, for small towns they can be particularly challenging due to management constraints, unique needs, affordability problems, and stiff competition for the limited Federal, State and Local funding available. There are four critical questions for which we provide the following information for your consideration in addressing small community needs in the Clean Water Act reauthorization.

**WHAT ARE THE WASTEWATER TREATMENT NEEDS OF RURAL AND SMALL COMMUNITIES?**

According to a 1991 ASIWPCA survey and report entitled "*Small Community Financing Needs*", States track over 17,000 small communities with 5000 or less population for wastewater treatment needs. Of these:

- 49% will require construction of facilities and conveyance systems in the next 10 years. Construction is needed in:
  - \* 56% to resolve existing water quality or public health problems.
  - \* 31% in order to avoid future violations of the Clean Water Act.
  - \* 13% to provide secondary treatment to meet the Act's minimum technology requirements.
- Construction costs will exceed \$10 Billion.

**WHAT HAS BEEN THE ROLE OF THE STATE REVOLVING LOAN FUND?**

The State Revolving Loan Fund (SRF), created under the 1987 Water Quality Act, was designed to meet the needs of communities of all sizes. It is successfully achieving that objective:

- 33% of State Revolving Loan Fund (SRF) projects are for small communities.
- 50% of States have small community assistance programs. This includes not only financial assistance, but technical and administrative assistance as well.

- **The streamlined nature of the loan program has benefited small communities.** Projects are being built at less cost, and 50% faster than under the Title II Construction Grant program.
- **However, in 50% of States, more than half of those needing construction cannot afford the debt service on an SRF loan if it were to cover the entire cost of the project.**

Based on these results, ASIWPCA has concluded that:

- 1) The SRF is a desirable option for most small communities, but total reliance on the SRF, in its present form, will not always be an affordable option in all cases.
- 2) Because of the high variability of affordability problems, local needs, and appropriate technology, State flexibility is essential. A nationally uniform approach to small community assistance would both misdirect scarce resources and exclude some hardship communities from eligibility.
- 3) Generally, small communities can afford SRF financing for at least a portion of their projects.
- 4) Small community needs should be addressed under the SRF umbrella. The SRF eliminates any incentive to delay compliance and greatly enhances local "ownership" over the construction and operation of treatment systems. Many more projects can be constructed under the SRF as opposed to a grant program. It yields more environmental results at less cost to communities than under Title II.

#### **WHAT ARE ASIWPCA'S RECOMMENDATIONS FOR MEETING SMALL COMMUNITY NEEDS?**

The ASIWPCA survey report makes a compelling case on the need for additional financial resources for small community wastewater treatment -- above and beyond continuing the existing funding level, of at least \$2 Billion annually for the SRF to meet pre - 1987 Water Quality Act requirements. In the Clean Water Act reauthorization:

- 1) **Small community financing should be addressed in the Clean Water Act State Revolving Loan Fund (SRF)** to assure as much cohesiveness and consistency as possible. States need one umbrella program as opposed to a plethora of program bureaucracies with different requirements, priorities, and processes. Proliferation of independent financial programs is detrimental due to competition, confusion and management inefficiencies. I.E., small communities need "one stop shopping".
- 2) **Supplementary authorization should be provided** for small communities in the SRF to:
  - \* Encourage additional technical assistance by the States, and
  - \* Allow States to blend principal subsidies with SRF loans to achieve a target State means test, e.g. percent of State (not national) median household income. The objective should be for States to assist affordable, effective treatment, rather than the Federal government encouraging competition from grant funds.

The Association emphatically does not support a return to the Title II grant program.

3) **Future Federal legislation should not:**

- \* **Detract from the need to fully fund and implement the Clean Water Act commitment to the SRF.** Since there is currently no new funding for new Congressional programs, the Association is concerned that a program for small communities not be funded at the expense of the SRF.
- \* **Delay facility compliance.** Any limited program with principal subsidies should focus solely on hardship small communities to assure that other communities without financial hardship do not misinterpret legislative intent and await the return of the Title II grant program.

4) **Future Federal legislation should:**

- \* **Give States broad flexibility** to tailor funding mechanisms to meet the needs of their small communities. No two States are alike, nor are their communities.
- \* **Capitalize a State program.** The need for Federal involvement is minimal. Federal agencies are too remote from the beneficiaries -- who often have immediate and intensive personalized needs -- to be of much assistance, except as a clearinghouse, e.g. for innovative approaches.
- \* **Further minimize the requirements placed on small communities** due to their impact on project costs and their limited project management capabilities by:
  - .. **Giving States the discretion to apply Title II goals as appropriate to individual projects.** In the absence of obtaining this type of flexibility, the following modifications to Section 602(b)(6) are necessary:
    1. Delete Section 201(g)(1), 20% Limitation
    2. Delete Section 201(g)(5), Innovative/Alternative Analysis
    3. Delete Section 201 (6)(g), Recreation/Open Space Requirements
    4. Delete the word "proportional" in Section 204(b)(1), User Charge Requirements
    5. Delete the mandatory nature of the requirement to perform value engineering in Section 218, Cost Effectiveness
    6. Delete Section 513, Labor Standards Provisions
  - .. **Eliminating the 20% limitation on SRF funding for collector sewers, etc.**
  - .. **Providing States the flexibility to allow up to a 40 year loan repayment period.**
  - .. **Allowing funding of land, easements, and rights of way.**
- \* **Allow a greater percentage of funds to be used for administration and technical/administrative assistance.** I.E., 4% of capitalization grants, as States have learned under the SRF, is not adequate to manage the SRF. Small community needs will be more demanding than for the average size city.

- \* Broadly define "small community" to include such entities as special benefit assessment districts and allow States flexibility to include those up to 10,000 population.
- \* Simplify audit requirements, using the Single Audit Act of 1984 to eliminate duplication and achieve greater audit coverage.

5) For expanded eligibility for water supply facilities:

The Association could support appropriation of supplemental funds for water supply projects and, for the short term use of the Title VI SRF as the vehicle for distribution of these funds. Furthermore, an "SRF type mechanism" should be considered as the best long term vehicle for funds distribution. However, such funding must be in addition to existing Clean Water Act appropriations, and not demean the integrity of the Clean Water Act SRF. Specifically:

- \* Additional funding must be authorized and appropriated above the \$5 Billion level recommended for Clean Water Act needs under the Title VI SRF program.
- \* States must have flexibility to establish separate SRFs, develop separate funding priorities or include water supply project funding under existing Title VI SRFs.
- \* There must be separately identifiable Federal funding sources for both the Clean Water Act and Safe Drinking Water Act assistance programs.
- \* A Safe Drinking Water needs development process must be established to provide Congress and others with information on funding levels to support the program with expanded eligibilities.

WHAT WAS THE STATES' EXPERIENCE UNDER THE CONSTRUCTION GRANTS PROGRAM FOR INNOVATIVE AND ALTERNATIVE TECHNOLOGIES? WHAT SHOULD BE THEIR ROLE IN THE 1990'S?

The Association did not support the mandatory Title II setaside for innovative and alternative (I&A) technology and is dissatisfied with the program's performance. The Act required 4% of Construction Grant funds be setaside to increase the base level of Federal cost share by 10%, in order to promote I&A technologies. States encountered a number of problems.

- The program was often out of proportion to the need. The 4% setaside was in reality a 34% setaside. I.E. 30% of a State's allotment was needed to provide the base Federal share to which the additional 10% of match was applied using the 4% setaside.
- Some marginal projects were selected, in order to expend (and not lose) the allotment.
- The failure rate of I&A projects was higher than desirable.
- What began as a legitimate concern, quickly turned into a complex bureaucratic exercise with reams of manuals, guidance and policies. This complicated an already over burdened Federal Construction Grant Program.
- Decisions often hinged on vague definitions which may or may not be appropriate. Projects were selected that did not fit the intent of the law, i.e. were less than innovative.

- Communities, lured by the extra funds, were convinced to undertake projects which they could neither manage nor afford to operate or maintain.**

While there also were many successes, the objective got lost in the bureaucratic translation. In the 1970's, ASIWPCA recommended that Congress eliminate the mandatory nature of the setaside. We suggested that the concept take a more productive perspective, by focusing comprehensively on the operative meaning of wastewater treatment technology -- better correlating between specific technologies and long term realistic community capabilities using:

- 1) **A discretionary goal oriented approach** to encourage I&A.
- 2) **Incentives** for State programs, grantees and consulting engineers to perform high quality project planning.
- 3) **Improved research and development/technology transfer** to share information among the States and enhance local program management techniques.

These concepts have as much value today. Small communities generally need relatively simple, less demanding technologies. The SRF, by virtue of being a loan program over which communities maintain a strong degree of ownership, is encouraging appropriate I&A approaches. These efforts should be assessed. If further action is needed, the States urge the Committee to focus on the use of incentives in the SRF program, such as the State ability to provide interest subsidies (to a limited extent that does not unduly undermine fund corpus) and the USEPA's need to re-energize research and development, and technology transfer.

#### WHAT SHOULD BE THE ROLE OF CONSTRUCTED WETLANDS?

States are recognizing the role of constructed wetlands as a form of wastewater treatment. But, it is important to recognize their limitations:

- Constructed wetlands are, in many ways, a new concept. Much more needs to be learned.
- It is appropriate in some circumstances and not in others. E.g. if suitable land (in terms of size and characteristics) is available., e.g. a wetland previously existed on the site, the outlook for success is better.
- The costs can still be high, e.g. due to the need for collectors. Local community maintenance requirements can be high, e.g. in comparison with lagoons.

States should be encouraged to consider constructed wetland as a treatment alternative where appropriate. But, caution should be exercised, because non-conventional technologies, especially wetlands, are not a panacea. This is one area where USEPA could provide valuable assistance by funding research and development, and by transferring the results of existing projects.

CONCLUSIONS

A refined approach to funding wastewater treatment infrastructure is worthy of consideration for small communities most in need of financial assistance. However, such action should not undermine the Congressional commitment to the Clean Water Act State Revolving Loan Fund or fragment the overall financing program. States need to be clearly allowed to establish priorities based on their specific water quality and public health concerns. The key to success in meeting small community needs lies with flexibility -- giving individual States control over program design and operations. All Federal efforts to meet the needs of small communities should be closely allied with the Clean Water Act State Revolving Loan Fund to produce one cohesive funding strategy. Congress needs to allow States to use the SRF structure to administer a small community program, rather than establishing a separate entity.

Again, Mr. Chairman, the Association of State and Interstate Water Pollution Control Administrators appreciates this opportunity to discuss the State perspective. We would be happy to answer any questions which you or other members of the Committee may have.



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Testimony of the State of Ohio  
Environmental Protection Agency  
Before the  
House Water Resources and Environment Subcommittee  
February 24, 1993

Mr. Chairman, members of the Subcommittee, I am Greg Smith, Chief of the Division of Environmental and Financial Assistance for the Ohio Environmental Protection Agency. I appreciate the opportunity to appear before you today on behalf of the State of Ohio to provide comments about the needs of small towns and rural areas in meeting Clean Water Act requirements. We commend your decision to focus attention on this important aspect of municipal water pollution control.

It is an important aspect because although the needs of small communities are widely recognized, they pose some of the greatest challenges which have been presented by our county's water quality goals. Most importantly, these needs have not been adequately met at the State or federal levels.

As you receive testimony on this issue, witnesses will present various statistics throughout your hearings to demonstrate that small communities are in need of water pollution control assistance. I respectfully submit that the challenge before us now is to go beyond the data on small communities, and to jointly devise substantive strategies which are both comprehensive and effective in meeting the interests of the small and rural communities which we serve.

The statistical information I will present today regarding the need for small community wastewater treatment assistance is a summary of the results of a municipal needs survey conducted by our agency during the Summer of 1992. The survey data are a compilation of the needs identified for small community wastewater treatment improvement projects contained in various documents either prepared by small communities or by others. These estimates show a combined construction cost over \$1.1 billion in Ohio for communities which have under 10,000 population. I must also point out that since these estimates are derived only from reported construction needs, in all likelihood they underestimate the magnitude of small community construction needs in our State.

This survey information also gives us some indication about the nature of small community wastewater treatment needs. As you can see, most of the facilities improvements are for project types which provide basic levels of wastewater collection and treatment. A relatively small percentage of the costs in each category is devoted to attaining advanced levels of treatment. This observation coincides with our experience that much of the expense for small community wastewater facilities in our State is dedicated to preventing sewage from escaping to the environment, and to providing the most basic levels of treatment. Thus the most immediate small community needs are not to provide minor increments in pollution removal, but are more to provide protection of public health, and a basic level of quality of life for our small community and rural residents.

Why aren't more of these projects coming forward for financial assistance? Unfortunately, for small towns with limited technical and administrative expertise, undertaking almost any wastewater project is an intimidating experience. Also, they know it will be expensive, and in many cases not only is it politically unpopular, but it poses a genuine financial hardship to many segments of the community. These very real limitations inhibit local officials from taking steps to address their treatment needs.

The options available to help them overcome these obstacles are also limited. There is currently no single source of help where small, economically distressed communities can find the broad range of assistance that they need. In Ohio, some agencies provide partial funding through grants, but usually the community itself must try to paste together a satisfactory package of grants and loans to make an affordable project, often from three or more different sources. These different sources have different requirements, different objectives, and different application periods. The community is left to assemble and then preserve this fragile collage of financing in order to make the project financially feasible.

Most sources of financial assistance do little more than provide funds; communities receive little guidance as how to develop their project so that it effectively meets their own needs. Often small communities need help in identifying appropriate project alternatives which have the right combination of operability and cost-effectiveness for their special circumstances. Also, we find that many community officials appreciate suggestions regarding how to establish user fee systems, sewer use ordinances, and operation and maintenance programs for their facilities. Beyond financing for affordability, the community's ability to successfully implement these administrative elements will determine whether their system will successfully perform after it is built. Individual guidance and assistance for these items is also difficult or expensive to obtain.

In Ohio we have attempted to fill these small community needs. We have informal coordination among financing agencies to focus financial resources on a limited number of projects. Our SRF also emphasizes technical and administrative as well as financial assistance. (Within the 18th Congressional district the SRF has made loans to eight communities, and has given various levels of technical assistance to each.)

But even with these efforts, we believe that the SRFs will continue to be prevented from becoming the full-service assistance vehicle that small and rural communities need unless Title VI is comprehensively redesigned. We are therefore proposing that the Congress reconstruct the SRFs to better accomplish the goals of the Clean Water Act, and to meet the needs of our client communities.

We are calling for a second-generation SRF for two reasons: First, the needs of small, economically distressed communities are not adequately served by the present structure. With the support of Congress, the SRFs can do more - and want to do more - to make wastewater improvements for small communities of high economic need affordable. If we are to enact a truly community-centered approach to financial assistance, we must have a positive and effective mechanism to do so.

Secondly, our Governor and our Director have set a standard for the Ohio EPA to be assistive rather than regulatory as a first resort in achieving our mission of protecting the environment. No where is that philosophy better embodied than in our SRF program. We have abandoned the construction grants program command-and-control methods and now seek to accomplish water quality objectives through comprehensive assistance rather than compliance enforcement. I believe that the SRFs are the best vehicle with which to pursue that philosophy, and that it is a necessary philosophy particularly for our relationship with small, economically distressed communities. *If the Congress can agree with that approach, then we call upon you to empower us as States with adequate mechanisms to do so. The SRFs must be rebuilt to comprehensively accommodate small communities*

In view of the above, we respectfully set forward the following general recommendations.

1. Allow SRFs to provide principal subsidies, blended with SRF loans to achieve State-determined levels of project affordability, subject to a means test.
2. Establish specific authority and funding in Title VI for States to institute outreach programs for technical, administrative, and financial assistance to small and rural communities.

3. In coordination with the States, redesign all project-level requirements and limitations which apply to small community SRF projects to first be responsive to small community needs, and then to meet only the most compelling federal interests.

In the interest of time, I will defer elaborating on these recommendations, but we will be pleased to provide the subcommittee with a more specific list of recommended changes for the record.

Thank you once again for the opportunity to appear before you today. The Ohio EPA stands ready to help the committee in any way we can as it continues its deliberations on this issue.

GHS/gjw

**OHIO SMALL COMMUNITY WASTEWATER TREATMENT NEEDS****1992 OHIO EPA MUNICIPAL NEEDS SURVEY****RESIDENTIAL SERVICE AREAS WITH  
POPULATION LESS THAN 10,000  
(1,113 total communities)**

I	Secondary Treatment	(288)	\$352,249,000
II	Advanced Treatment	(235)	\$125,222,000
IIIa	I/I Correction	(69)	\$65,244,000
IIIb	Sewer Rehabilitation	(25)	\$24,283,000
IVa	Collector Sewers	(249)	\$411,720,000
IVb	Interceptor Sewers	(225)	\$112,835,000
V	Combined Sewer Overflows	(27)	\$72,931,000
			<u>\$1,164,484,000</u>

**POPULATION LESS THAN 5,000  
(972 total communities)**

I	Secondary Treatment	(252)	\$246,200,000
II	Advanced Treatment	(199)	\$75,905,000
IIIa	I/I Correction	(47)	\$19,462,000
IIIb	Sewer Rehabilitation	(12)	\$5,172,000
IVa	Collector Sewers	(222)	\$293,670,000
IVb	Interceptor Sewers	(200)	\$92,611,000
V	Combined Sewer Overflows	(17)	\$20,217,000
			<u>\$753,237,000</u>

**POPULATION LESS THAN 3,000  
(861 total communities)**

I	Secondary Treatment	(55)	\$216,029,000
II	Advanced Treatment	(46)	\$58,850,000
IIIa	I/I Correction	(8)	\$12,369,000
IIIb	Sewer Rehabilitation	(5)	\$4,284,000
IVa	Collector Sewers	(36)	\$241,539,000
IVb	Interceptor Sewers	(29)	\$71,256,000
V	Combined Sewer Overflows	(5)	\$15,113,000
			<u>\$619,440,000</u>

**POPULATION LESS THAN 1,000  
(560 total communities)**

I	Secondary Treatment	(125)	\$104,814,000
II	Advanced Treatment	(93)	\$26,028,000
IIIa	I/I Correction	(11)	\$1,377,000
IIIb	Sewer Rehabilitation	(4)	\$835,000
IVa	Collector Sewers	(127)	\$111,671,000
IVb	Interceptor Sewers	(113)	\$41,399,000
V	Combined Sewer Overflows	(0)	\$0
			<u>\$286,124,000</u>

TESTIMONY BEFORE THE SUBCOMMITTEE ON  
WATER RESOURCES AND ENVIRONMENT

Honorable Chairman, members of Congress, ladies and gentlemen, I am William C. Stafford, Jr. and I am the Chairman of the Lee County, North Carolina, Board of County Commissioners. Along with me is Robert F. Joyce, Lee County Economic Development Coordinator who will assist with answering any questions you may have. Today, I am here to speak to you regarding the burden Lee County and other such rural areas have bearing the cost of Clean Water Act federal mandates concerning permitted sewage treatment facilities, and wish to share with you comments which hopefully will lead to an era of sustainability.

The provision of safe wastewater treatment is crucial to the social and environmental health of rural communities. The federal government recognized the need to restore integrity to our nation's waters by adopting the Clean Water Act. The Clean Water Act attempts to address point source pollution by permitting and regulating sewage treatment plants. Advocates of the Clean Water Act can claim many victories: 10,000 sewage treatment plants have been constructed nationwide since 1981 solving the sanitary sewer needs of many. Nevertheless, the Clean Water Act does not address problems caused by non-point source pollution from failing septic tanks and stormwater runoff. Unfortunately, the problem of non-point source pollution often outweighs the obvious gains of

large sewage treatment plants.

Nationally, a large amount of federal money was devoted to the construction of many wastewater treatment facilities in the 1960s, 70s, and early 80s. In 1987, a program of federal assistance to the states for construction of these plants was reauthorized in an amendment to the Clean Water Act providing a total of \$9.6 billion in grants through 1990. Federal loans will be provided to states for the treatment facility construction only through 1994, at which time all federal loans for this purpose will cease. The lack of federal funding to supplement the increasing costs of compliance with federal mandates, particularly EPA regulations, will unfairly burden rural areas as well as smaller municipalities.

Although much has been accomplished with the federal money spent to construct sewage treatment facilities, little of this funding ever reached past cities and towns to rural areas such as the unincorporated portions of Lee County. The bulk of federal funding during these past decades focused almost entirely on the construction of large municipal wastewater treatment facilities for metropolitan areas. Little has been done to help rural America with failing septic systems and with no affordable access to municipal sewer. When the federal government relinquished its responsibility for infrastructure financing to each state in the early 1980s, more and more of the financial burden fell on local governments to enforce the regulations mandated by the federal

government. The problem becomes clear. Large metropolitan areas have a greater tax base upon which to draw the funds necessary to install, maintain, and expand federally mandated wastewater treatment facilities. There simply is not enough money in smaller rural communities, such as Lee County, to provide adequate sewage facilities to all their citizens who look to their local government for help.

This quiet crisis is looming and threatens the health, environment, and economy of Lee County. Thousands of our citizens do not have affordable access to safe sewage disposal. Lee County is situated geographically in the center of North Carolina with a total land area of 255 square miles and a total population of over 41,000. Approximately 92% of the area and roughly one-half of the population of Lee County is not served by municipal sanitary sewer. According to Lee County's environmental health specialists, approximately 25% of the existing septic tanks in Lee County are now malfunctioning. Lee County's geological make-up is such that over two-thirds of the county is composed largely of clay and siltstone rock. Clay is almost impermeable and is an extremely poor soil for the location of septic tanks which does not allow wastewater to dissipate.

It is critical that the federal government not take actions that will make it more difficult for local governments to raise the revenues necessary to meet their growing needs. The quality of a

community's infrastructure is a critical index of its economic vitality. Reliable transportation, clean water, and safe disposal of wastes are basic elements of civilized society and a productive economy. The absence or failure of these elements introduces an intolerable degree of risk and hardship to everyday life, and becomes a major obstacle to growth and competitiveness. Increasingly stringent regulations can blunt a local government's efforts for planned growth. Limited amounts of land served by sanitary sewer is a constant foe to local economic development efforts. Our county is the victim of a vicious cycle. Much of the land is unsuitable for on-site sewage disposal systems and little or no municipal sewer is available in those areas. Industrial, commercial, and residential development cannot occur in areas without a means of approved waste disposal. Without greater development, neither the tax base nor the user rates paid by current users of the municipal sewer system is sufficient to generate the capital necessary to facilitate a constant, steady expansion of the existing sewer system. Lee County certainly is not alone in its predicament. The federal government must act as a full and responsible partner on a long-term basis in the national effort to increase and sustain public capital investment.

Current federal regulations resulting from the Clean Water Act are not only problematic to local governments due to a lack of funding, the actual regulations themselves are difficult to enforce due to their constant changes. The Public Works Director for the

City of Sanford, the largest municipality in Lee County with a population of slightly over 20,000 and the sole provider of municipal wastewater treatment in Lee County, refers to Sanford's efforts to stay ahead of the ever-changing regulations as similar to "shooting at a moving target". The City of Sanford's Big Buffalo Sewage Treatment Plant was built in 1975 with a capacity of five million gallons per day at a cost of approximately \$5 million dollars. This facility was designed to serve Sanford's citizens for twenty years. However, federal regulations continued to tighten over the following years until, fifteen years later, when only one half of Sanford's sewage treatment facility was being utilized, the City was placed under a "special order of consent" by the State of North Carolina to comply with the latest regulations regarding the lower amount of dissolved Oxygen. Essentially, the City of Sanford was told that although their relatively new sewage treatment plant was only utilizing 50% of its capacity, they could not add even one more user without making costly updates. Fortunately, the citizens of Sanford recognized the need for the required improvements and passed a bond referendum for in excess of \$13 million dollars. However, this bond financing increases the debt load for our community and makes citizens reluctant to support other debt financed projects such as schools. Such burdensome costs incurred by the City in their effort to comply with federal mandates clearly limits the future expansion of Sanford's municipal sewer system and therefore prevents more of Lee County's citizens from obtaining clean, safe wastewater

treatment.

While the benefit of securing an enduring safe water supply is not disputed, the costs of mandated regulations are constantly growing. These rules drive state policies which must, in turn, be enforced by local governments. Although federal funds were readily available and utilized to construct Sanford's original wastewater treatment plant, little federal assistance other than a \$750,000 Economic Development Administration Grant was available when the costly updates in the system were completed. The mandated improvements were concluded in 1992 with a total cost of \$10.8 million dollars. The capacity of the system was increased to 6.8 million gallons per day even though the additional capacity was not immediately necessary. Even today, only approximately 4 million gallons of wastewater per day is being treated by Sanford's treatment plant. Using an average cost of \$30 per linear foot as the cost of new sanitary sewer line, the same \$10.8 million dollars could have provided an additional 68 miles of sewer line and have enabled thousands of additional Lee County citizens affordable access to sanitary sewer.

The payment of the costs of federally mandated wastewater treatment improvements is not always so obviously borne by the citizens of a municipality. Most municipalities, including the City of Sanford in Lee County, have resorted to supplementing "user rates". User rates allow for only those citizens who actually use

the municipal sewer system to pay for its maintenance; however, user rates usually do not fully refund a municipality the administrative and economic opportunity costs associated with capital projects of this magnitude, nor do they provide enough money to allow for the steady expansion of the system. Steady increases in municipal user rates are common in the municipality's attempt to fund the rising cost of maintenance. The City of Sanford has been forced to increase their sewer user fees 124% over five years. Although financially necessary, such increases greatly impact all the users of the system, in particularly those users who are already economically disadvantaged.

The "pay only for your usage" policy is also not conducive to the needs of the rural sewer user. Typically, rural residential users cannot afford to pay the full cost associated with their utilization of such systems. This means that in order for a municipality to provide sanitary sewer to rural residential users, the municipality must look to industrial and commercial users, as well as to ad valorem taxes, to subsidize the costs. Essentially, without federal and state assistance, rural residential users of municipal sewer must have the cost of their usage subsidized locally; otherwise, they cannot afford the full costs associated with usage of the municipal sanitary sewer system. Unfortunately, we live in a world where local municipalities as well as industrial and commercial development can no longer afford the cost of subsidizing rural citizens. In our county, waste producing

industries have been forced to instigate costly pretreatment of their waste before it is transferred to the municipal sewer system. Many of Lee County's industries are not as fortunate as Praxis Biologics, a local pharmaceutical industry, which is an extremely low waste producer. Overall, the cost of their wastewater management is becoming increasingly high. Guest, Keen, Nettlefold (GKN), a local automotive component manufacturer, has experienced similar financial problems due to rapidly changing federal regulations. Dennis Donovan, GKN's plant manager, cites the pressing need for long term EPA regulations. GKN recently purchased an expensive piece of industrial equipment which was rendered obsolete long before the equipment was depreciated due to rapidly changing EPA regulations.

The burden to provide safe sewage disposal systems as mandated by the Clean Water Act weighs heavily on local governments. Federal programs related to rural residential wastewater treatment facilities must be adequately funded with federal dollars using the national economies of scale, which will allow smaller, rural areas the same opportunities to obtain safe wastewater treatment mandated by this body as is offered to larger metropolitan areas. In addition to these direct economic costs, the related socioeconomic price of lacking adequate wastewater treatment facilities is high. Increasing urban sprawl, facility and service problems related to education, sanitation, recreation, law enforcement, and health services are all products of the growing problem in Lee County, as

well as in other similarly rural areas throughout the country. There would seem to be serious equal protection concerns arising from the schism rural citizens face regarding affordability and sustainability of Clean Water Act standards. Additionally, the natural environment suffers because land preservation and conservation efforts are compromised in areas of better soils due to the homesteading effect of subdividing large tracts two to three acres at a time. Ultimately, a rural unit of government becomes unable to plan for proper service delivery resulting from these effects. It is imperative that the federal government assist rural units of government, such as Lee County, today to mitigate tomorrow's ever-growing consequences. In the 1930s, rural electrification assisted non-urban areas to grow. Today, wastewater treatment assistance is needed to help stop the cycle of poverty in rural areas, and to help rural citizens realize the benefits of the "American Dream".

The Clean Water Act has accomplished much good throughout the nation's urban areas; however, the focus of the Clean Water Act must be broadened to recognize the limited fiscal capacity, as well as the sewage treatment needs, of rural areas as well as of urban areas. Sufficient federal monies should back both urban and rural oriented programs with long-term solutions for the problems of both point and non-point source pollution, and should strive to fulfill the original intent of the Act -- to ensure the safety and cleanliness of our nation's waters -- by providing federal funds

for the implementation of federally mandated programs aimed at providing safe sewage treatment alternatives to all Americans. Such action will allow us all to reach a level of sustainability with regard to mandates as well as economic competitiveness.

I thank you for your invitation, your time, and your willingness to hear from rural America. If you have any questions, please feel free to ask.

## ADDITIONS TO THE RECORD

JAMES E. CLYBURN  
8th DISTRICT, SOUTH CAROLINA

COMMITTEES  
PUBLIC WORKS AND  
TRANSPORTATION  
SURFACE TRANSPORTATION  
ECONOMIC DEVELOPMENT  
PUBLIC BUILDINGS AND GROUNDS

VETERANS' AFFAIRS  
EDUCATION, TRAINING AND EMPLOYMENT  
OVERSIGHT AND INVESTIGATIONS

CONGRESSIONAL RURAL CAUCUS  
EXECUTIVE COMMITTEE

MAJORITY ZONE WHIP

Congress of the United States  
House of Representatives  
Washington, DC 20515-4006

March 31, 1993

319 CANNON HOUSE OFFICE BUILDING  
WASHINGTON, DC 20515-4008  
(202) 225-3319

DISTRICT OFFICES  
1703 GERVAIS STREET  
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(803) 798-1100

181 EAST EVANS STREET  
SUITE 314  
POST OFFICE BOX 8288  
FLORENCE, SC 29502  
(803) 662-1212

NORTH CHARLESTON CITY HALL  
1ST FLOOR  
4900 LACHROIX ROAD  
NORTH CHARLESTON, SC 29418  
(803) 747-8660

The Honorable Douglas Applegate  
Chairman  
Subcommittee on Water Resources  
Committee on Public Works and Transportation  
B-370-A Rayburn House Office Building  
Washington, D. C. 20515

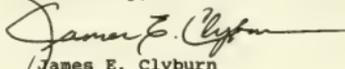
Dear Congressman Applegate:

I am enclosing a summary of issues I requested from the state agency in South Carolina which administers the State Revolving Fund loan program. This summary was requested while your subcommittee conducted its Clean Water Act reauthorization hearings in February.

Thank you for the opportunity to provide this input from an agency directly involved in this important program. If I may provide additional information, please do not hesitate to contact me.

With kindest regards, I am

Sincerely,

  
James E. Clyburn  
Member of Congress

JEC:dc

Enclosure

STATE OF SOUTH CAROLINA  
*State Budget and Control Board*  
 DIVISION OF LOCAL GOVERNMENT

CARROLL A. CAMPBELL, JR. CHAIRMAN  
 GOVERNOR

GRADY L. PATTERSON, JR.  
 STATE TREASURER

EARLE E. MORRIS, JR.  
 COMPTROLLER GENERAL



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JOHN DRUMMOND  
 CHAIRMAN, SENATE FINANCE

WILLIAM D. BOAN  
 CHAIRMAN, WAYS AND MEANS COMMITTEE

LUTHER P. CARTER  
 EXECUTIVE DIRECTOR

March 5, 1993

Mr. Danny Cromer  
 c/o Congressman James Clyburn  
 Congress of the United States  
 House of Representatives  
 Washington, DC 20515-4006

Re: Sewage Treatment Needs of Rural and Small Communities

Dear Danny,

Enclosed is a summary of my thoughts on addressing sewage treatment needs of small, rural areas.

Thank you for allowing me to input some thoughts on this important matter.

Sincerely,

*Mike*

G. Michael Caughman

cc: Mike Gulledge

GMC/edm

## SEWAGE TREATMENT NEEDS OF RURAL AND SMALL COMMUNITIES

Small communities, which serve the needs of rural areas in our country, face special problems in dealing with existing requirements as well as new mandates in the environmental arena. The discussion below will deal with those problems germane to the provision of wastewater services to the public.

- Small communities lack expertise to deal with new requirements and technologies. Government at Federal level should focus on providing technical assistance monies to the State governments to assist in this area.
- Small communities often are saddled with technologies too complex and costly to operate and maintain. The Federal government should direct that State agencies with environmental oversight responsibilities utilize special review criteria prior to construction permitting that emphasizes inexpensive, simple, low-cost technologies for small, rural community water and wastewater projects.
- Small communities are faced with an Economies of Scale problem. To address this, the Federal government should reemphasize the area wide planning intent of the Clean Water Act to reflect regionalization where possible.
- The Federal government, with numerous sources of grant and loan money, should simplify and standardize eligibility application formats and environmental assessment formats associated with assistance applications. Water conservation should be emphasized with a discount on interest rates.
- The Federal government should assess not only the wastewater impacts on small communities, but also the overall impact of all environmental requirements. Based on some developed criteria which indicates "financial incapability", there should be an "interim status" afforded under a compliance plan arrangement, similar to proposed H.R. 3246 and S. 1226. The effect of a compliance plan (which must be approved by State regulatory agencies) would be to prioritize consistent with both environmental and financial constraints at the local level.
- Small communities often are not assessing adequate user charges to cover operation, maintenance, and replacement. The Federal government should require that adequate user charges be recovered for all environmental programs, and that these be subject to yearly audits by State governments. Funds should not be co-mingled with others, or otherwise used outside of the program from which funds originated.
- The discharge permits require more and more. States should continue to have latitude for site specific water quality environmental criteria to be developed, and Federal government should provide moneys for the State governments to do so.
- Civil penalty assessment matrices should iterate more leniency toward small communities who are unable to pay. Federal emphasis should also be to insist on utilization of civil penalty moneys in environmental/environmental remediation programs only.
- Economic variances should be emphasized at Federal level and exercised at state level when appropriate.

- Federal emphasis should be toward a policy of extended compliance periods for small communities who illustrate financial incapability.

- The Federal government should research and promote better construction methods to preclude Infiltration/Inflow (wastewater) and outflow (potable water)..

- The Federal government should provide special moneys earmarked only for small communities to be utilized in low interest grants and a loan program such as the existing State Revolving Fund program. These moneys should also allow grants in some financially disadvantaged communities, but only in combination with low interest loans and an ability to pay index. In the case of small communities, the Title II requirements currently associated with the EPA's SRF program (Title VI) should be waived, therefore meeting the same requirements as non-SRF projects. This should accrue to short-term supplemental, job creation money as well as the Clean Water Act reauthorization.

- The State should have the latitude in the SRF to extend amortization periods beyond 20 years at their discretion based on useful life expectation of segmented project. At the same time, the Federal government should rethink its 40 year loan policy that Farmers Home Administration currently has in that this exceeds the useful life of some portion of a project. Not addressing this will compound debt on future generations as replacement becomes necessary prior to this 40 year period.

## Wastewater Treatment Needs in Unsewered Areas

Twenty-seven percent of the housing units in Minnesota are not connected to a public sewer; most of these homes are located in small cities, rural subdivisions and lakeshore areas across the state. County officials estimate that 70 percent of the on-site treatment systems (septic systems) serving homes and other establishments do not conform to minimum treatment and/or design standards. These nonconforming systems discharge raw or inadequately treated sewage to surface and ground waters, which can result in serious health and environmental consequences.

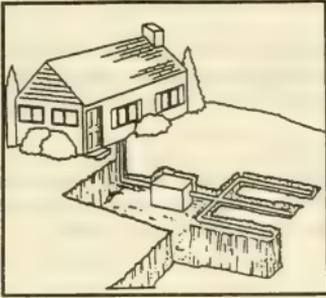
In 1991, the Legislative Water Commission directed the Minnesota Pollution Control Agency and the Department of Trade and Economic Development to study issues related to the future of wastewater treatment financing in Minnesota. The agencies made several recommendations in February 1992, one of which was to form a committee that would study and develop approaches for addressing the growing health, environmental and financial needs of unsewered areas. In March 1992, the Unsewered Area Advisory Committee (UAAC) was formed. The UAAC includes representatives from watershed districts, counties, cities, townships, regional development commissions, private contractors and state agencies.

The UAAC has issued a report entitled Wastewater Treatment Needs in Unsewered Areas - Report to the Legislative Water Commission. The report will be presented to the Legislative Water Commission in January 1993. The report describes the scope of the problem, lists related issues, discusses existing programs, and makes recommendations on how to resolve the wastewater treatment problems in unsewered areas.

Recommendations include:

- Implement Individual Sewage Treatment Standards (Mn. Rules Chapter 7080) on a statewide basis to ensure consistent standards regarding on-site systems.
- Require a mandatory certification program for professionals involved in the construction, inspection and maintenance or design of on-site systems.
- Institute a statewide enforcement program to maintain standards.
- Provide maintenance guidance to municipalities for the oversight of on-site systems within their jurisdictions.
- Continue support for the current Individual On-Site Wastewater Treatment Systems Grant Program and support revisions based on environmental criteria.
- Educate the public and others on the benefits and importance of conforming treatment systems.
- Provide funding for research in technology improvements.
- Assist municipalities in wastewater planning efforts.

If you have questions or would like to receive a copy of the report, call Vicky Cook of the MPCA at (612)296-7248 in the metro area or toll-free at 1-800-657-3864.



# RECOMMENDATION SUMMARY

**WASTEWATER TREATMENT  
NEEDS IN UNSEWERED AREAS**

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**WASTEWATER TREATMENT NEEDS IN UNSEWERED AREAS**

January, 1993

**REPORT RECOMMENDATION SUMMARY**

The Unsewered Area Advisory established and prioritized the following recommendations. The first two recommendations need to be implemented immediately in order to provide structure and statewide consistency for addressing on-site sewage treatment problems.

**RECOMMENDATION #1 - STATEWIDE STANDARDS**

Legislation should be enacted that requires Minnesota Rules Chapter 7080 (Individual Sewage Treatment Standards) be implemented statewide to provide consistent standards for the design, location, installation and maintenance of individual on-site sewage treatment systems.

**Target Implementation Date:** January 1, 1995

**Estimated Costs:**

**Local Governments:** \$300 - \$600 (Ordinance adoption), \$unknown (administration)

**Possible Funding Sources:** Self-supported by fees.

**RECOMMENDATION #2 - MANDATORY CERTIFICATION PROGRAM**

Legislation should be enacted requiring a mandatory certification program for on-site professionals. This will prevent underbidding by unqualified contractors, and greatly reduce the number of inadequate on-site systems designed, installed, inspected and maintained by unqualified individuals.

**Target Implementation Date:** July 1, 1994

**Estimated Costs:**

**Local Governments and Private Contractors:** \$100 per yr per person (Staff certification/training, expenses)

**State Agency (MPCA):** \$180,000 per year (3 agency staff, salaries, supplies, expenses)

**Possible Funding Sources:** Self-supported by fees.

**RECOMMENDATION #3 - STATEWIDE ENFORCEMENT**

Legislation should also be enacted for a statewide enforcement program to provide a mechanism for bringing all on-site systems in the state up to code by the year 2005.

**Target Implementation Date:** January 1, 1995

**Estimated Costs:**

**Local Governments (Counties):** \$10 - \$15 per system (Survey of nonconforming systems), \$50 - \$100 per system (Inspection), \$60 - \$100 per system (Enforcement)

**Individuals:** \$2,000-\$10,000 (Nonconforming system replacement)

**Possible Funding Sources:**

System permit, inspection fees, enforcement penalties, DNR Shoreland Management Grants, MPCA/PFA On-site Grants Program, State Revolving Fund, home improvement & other private loans

**RECOMMENDATION #4 - MAINTENANCE PROGRAM**

Maintenance guidance should be provided to municipalities\* for the oversight of the on-site treatment systems within their jurisdictions. Municipalities should track system maintenance by using a reporting system, or contract to have the systems maintained and bill the residents for the service.

**Target Implementation Date:** January 1, 1996

**Estimated Costs:**

**State Agencies** (University of MN Extension, MPCA & DNR): \$10,000 (Guidance development, publication & distribution)

**Local Governments:** \$1,000 (Start-up costs, Education), \$100 - \$500 per year (Tracking, administration)

**Individuals:** \$25 - \$50 per year (Maintenance every 3 years)

**Possible Funding Sources:** Fees from pumpers, U.S Environmental Protection Agency [EPA], Legislative Commission on Minnesota Resources [LCMR] (educational programs)

**RECOMMENDATION #5 - CONTINUATION OF CURRENT FUNDING PROGRAM**

The Legislature should continue to support the current Individual On-Site Wastewater Treatment Systems Grant Program until a revised program, using environmental priorities, can replace it. Funding is necessary to provide incentives and direction for municipalities without sufficient financial resources in order to bring all systems into conformance.

**Target Implementation Date:** July 1, 1993

**Estimated Costs:**

**State Agencies** (MPCA, PFA): \$1,000,000 per year (Grants to municipalities @ \$100,000 per project) , \$80,000 per year (1 1/4 staff, salaries, supplies & expenses)

**Local Governments:** \$1,000 - \$5,000 per project (Administration)

**Individuals:** \$1,000 - \$5,000 per system (50 percent not covered by the grant)

**Possible Funding Sources:** State Legislature, municipal bonds, home improvement, other loans.

**RECOMMENDATION #6 - EDUCATION**

For many of the recommended solutions to be effective, education on the benefits and importance of conforming systems is necessary. People must be made aware that they are ultimately responsible for the wastes they generate.

**Target Implementation Date:** January 1, 1995

**Estimated Costs:**

**State Agencies** (University of MN Extension, MPCA): \$10,000 (Education program development), \$20,000 (Video, copying, distribution), \$20,000 (Public outreach)

**Possible Funding Sources:** EPA, LCMR (educational programs), video rental fees

**RECOMENDATION #7 - RESEARCH**

Legislation should include funding for research to support investigation of innovative on-site systems, foster technological improvements and maximize the effectiveness of systems in Minnesota's soil and climate.

**Target Implementation Date:** April 1, 1995

**Estimated Costs:**

**University of Minnesota Extension:** \$250,000 per year (Research development, staff, start-up and projects)

**Possible Funding Sources:** LCMR, EPA and private industry

#### **RECOMMENDATION #8 - PLANNING ASSISTANCE**

Planning assistance to local governments is crucial if they are to develop adequate plans to address current and future wastewater treatment needs. Determining whether on-site systems are the best environmental and most cost-effective solution for wastewater treatment is a difficult problem for many municipalities. Planning for new development is especially critical to preventing new problems.

**Target Implementation Date:** January 1, 1995

**Estimated Costs:**

**State Agencies** (University of Minnesota, MPCA): \$60,000 (Guidance development, publication)

**Other** (League of MN Cities, Association of MN Counties): \$50,000 (Workshops, guidance distribution)

**Local Government:** Costs for staff and local officials, to attend workshops

**Possible Funding Sources:** EPA, LCMR, workshop registration fees

#### **RECOMMENDATION #9 - TECHNICAL APPROVAL METHODOLOGY**

A methodology should be developed to facilitate the use of promising innovative alternative on-site treatment systems. Revisions to Chapter 7080 should include a performance standard for the level of treatment required from an onsite treatment system. Systems that consistently meet performance standards would then be allowed under the code.

**Target Implementation Date:** January 1, 1994

**Estimated Costs:** COVERED THROUGH CURRENT ACTIVITIES

#### **RECOMMENDATION #10 - MUNICIPAL FINANCIAL ASSISTANCE**

Efforts to fund on-site systems should be concentrated on municipalities. Although all on-site systems in the state need to be brought into conformance with Chapter 7080, the greatest environmental benefit will be derived from concentrating limited funding sources on problem areas.

**Target Implementation Date:** January 1, 1996

**Estimated Costs:**

**State Agency** (MPCA): \$10,000.00 (Statute and Rule Revisions, corresponding program changes)

*See Recommendation #5.*

*\*Municipalities in this report are defined as cities, counties, townships, watershed districts and sewer districts. Unincorporated areas and other rural areas can all be placed within this definition.*



## THE INDIVIDUAL ONSITE WASTEWATER TREATMENT SYSTEMS GRANT PROGRAM



### PROGRAM PURPOSE

The individual onsite wastewater treatment system grants program provides grants to municipalities to assist owners of individual onsite systems in upgrading or replacing their failed systems. The rules of the program have been changed to: 1.) incorporate the statutory changes made during the 1990 Legislative Session; 2.) reduce the financial risk for municipalities seeking funding; 3.) streamline the application process; and 4.) clarify requirements for alternative planning areas. These new rules became effective in January of 1992.

### GENERAL ELIGIBILITY REQUIREMENTS

#### **Municipality**

- Projects are within the official boundaries of the municipality, OR an alternate planning area has been approved.

*Note: Both municipal and individual eligibility requirements must be met.*

#### **Individual Systems**

##### The system

- is a failed system,
- was constructed before January 1, 1977,
- does not serve a seasonal residence,
- was not constructed with state or federal water pollution control funds, and
- the system is located within the project area.

### APPLICATION PROCESS

#### Requests to be Placed on the Onsite Funding List

Public notice will be made in the State Register when municipalities can submit requests to be placed on the onsite funding list. Further instructions will be published at the time the submittal period is opened.

#### Funding List Ranking

Projects which meet requirements will be ranked in priority order based on the median household income of the municipality or alternate planning area. Once projects are ranked, a determination of fundable projects will be made based on the amount of money available. **Approximately \$313,300 is currently available** for new projects and project amendments. When projects that can be funded are identified, all projects submitting a request for placement on the funding list will be notified.

#### Application

Only municipalities who have been notified that their project is fundable are eligible to submit an application.

### ELIGIBLE COSTS

The Individual Onsite Grants Program will cover **50% of construction costs** per dwelling or other establishment up to a maximum amount of \$2,500 for a trench or bed system, and \$3,750 for a mound system. Cluster systems serving 5 or fewer dwellings are also eligible for grant participation. **Site evaluation and systems design costs** are also **50% eligible** up to a maximum of \$150 per dwelling or other establishment.

### FOR MORE INFORMATION

The program is governed by Minnesota Statutes, section 116.18, subd. 3c and Minnesota Rules sections 7077.0700 to 7077.0765. For additional information on the program please contact:

Victoria Cook	Phone: (612)296-7248 or
Nonpoint Source Section	Toll Free: 1-800-657-3864
Division of Water Quality	
Minnesota Pollution Control Agency	
520 Lafayette Road, St. Paul, Minnesota 55155	

**INDIVIDUAL ONSITE GRANTS PROGRAM  
APPLICATION CYCLE**

**ONSITE FUNDING LIST** (MN Rules Part 7077.0713)

The onsite funding list will be compiled prior to a grant application period. The list will be used to determine what projects can be funded with the money available. Only these projects will be eligible to submit an application. Requirements for new projects to be placed on the list include:

1. Submission of a **written request** to the commissioner for placement on the onsite funding list;
2. A **resolution** from the municipalities' governing body that (a) designates the municipality as the responsible party for submitting the placement request and future application, (b) authorizes filing the request and future application, and (c) designates the municipal official authorized to sign documents relating to the project;
3. A **map** of the municipal jurisdiction or approved alternate planning area;
4. A **preliminary list** identifying the addresses of the individual systems suspected of failure (or noncompliance) that meet the individual eligibility requirements;
5. **Median household income data** or alternative data that includes income data and computation methodology for municipalities or planning areas not included in the decennial census;
6. An **estimated schedule** of site evaluation, design and construction for all eligible systems;
7. A copy of a **draft ordinance** adopting the requirements of 7080 and establishing a maintenance plan; and
8. The **total estimated eligible cost** for the project.

**PROJECT RANKING** (MN Rules Part 7077.0713, subp. 4)

Project ranking for funding will be based on the approved median household income for the project planning area. Certain project types shall be grouped and prioritized according to the following:

1. **Partial award projects** will be ranked before project increase amendments and new projects;
2. **Project grant increase amendments** will be ranked before new projects; and
3. **New projects.**

**GRANT APPLICATION** (MN Rules Part 7077.0725)

Once projects are notified that they are fundable, a complete application must be submitted, and include:

1. A **wastewater treatment plan** adopted by the municipality's governing body that identifies needs and proposes long-term solutions for a planning area including: (a) a planning area survey prepared by an inspector identifying all systems in the area as failed or in compliance with 7080, (b) site evaluations including all soils work (investigations, borings, and percolation tests for failed systems) prepared by a site evaluator and with a determination on the feasibility of replacing or upgrading the failed systems, (c) a proposed system summary including sizing, location and design, prepared by a designer, (d) a list of the failed systems including names and addresses of property owners who meet the individual eligibility requirements and copies of the abatement notices, (e) an analysis of the overall treatment needs in the planning area including specific actions and a proposed timetable for addressing treatment needs, (f) documentation approving site inspectors evaluator(s), designer and installer, (g) a certification of the wastewater treatment plans adoption;
2. A copy of the **enacted ordinance** that adopts the requirements of Chapter 7080, a maintenance plan for the onsite systems within the municipality's jurisdiction, and certification that the ordinance is being enforced;
3. **Signed statements of compliance** with the individual eligibility requirements from the individual owners;
4. The **amount of grant funding requested** for site evaluation, system design, and construction and a certification stating that only eligible costs have been requested;
5. The **estimated date of completion** of all construction and final request for grant eligible system payment;
6. A statement from the municipality that it has an **inspector on staff or under contract** for services;
7. An assurance from the municipality that **all owners connected to a cluster system agree to be participate** in the project and in financing future operation, maintenance and replacement of the system.



INDIVIDUAL ON-SITE WASTEWATER TREATMENT SYSTEMS  
GRANT PROGRAM



PROGRAM FUNDING STATUS

**A. FUNDING SUMMARY**

Initial program appropriation (1988)	+ \$1,000,000
Additional General Fund appropriation (1990)	+ \$250,000
Governor's state budget reductions (1991)	- \$250,000

<b>SUBTOTAL</b>	<b>\$1,000,000</b>
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Project Grant Awards (both funding cycles)	- \$472,100
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<b>SUBTOTAL</b>	<b>\$527,900</b>
-----------------	------------------

Additional Funding (1991 Legis. Session)	+ \$160,000
--	-------------

Proposed General Fund Cuts (biennium)	- \$60,000
---------------------------------------	------------

<b>TOTAL FUNDING AVAILABLE FOR 1992</b>	<b>\$627,900</b>
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WLSSD Demonstration Project	- \$40,000
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<b>TOTAL FUNDING FOR 1992 APPLICATIONS</b>	<b>\$587,900</b>
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**B. 1992 APPLICATION PERIODS**

**ROUND 1 (Opened 2/18/92)**

Amendment Requests (Lastrup, Rice County)	- \$10,200
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New Grants

City of Bruno	- \$172,303
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Hubbard Village	- \$8,108
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Nicollet Co. (Klossner)	- \$73,750
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<b>TOTAL AVAILABLE FOR ROUND 2</b>	<b>\$323,539</b>
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**ROUND 2 (Opened 10/19/92)**

New Grants

City of Donaldson	- \$64,000
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City of West Union	- \$53,878
--------------------	------------

City of Crosslake	- \$97,050
-------------------	------------

Hubbard Twnshp. (So. Long Lake)	- \$22,050
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Chisago Co. (Almelund)	- \$86,561 (Partial Grant)
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<b>PROGRAM BALANCE</b>	<b>\$0</b>
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## INDIVIDUAL ON-SITE WASTEWATER TREATMENT SYSTEMS GRANT PROGRAM

### C. PROJECT SUMMARY

**1. RICE COUNTY (Webster Township Planning Area)**

Grant amount **\$156,740**, Approved Budget Period 4/90 - 12/92

Number of systems being replaced - 47

**2. CITY OF BROOK PARK**

Grant Amount **\$108,500**, Approved Budget Period 12/90 - 10/93

Number of systems being replaced - 48

**3. CITY OF BURTRUM**

Grant Amount **\$100,700**, Approved Budget Period 12/90 - 10/93

Number of systems being replaced - 53

**4. CITY OF LASTRUP**

Grant Amount **\$74,000**, Approved Budget Period 5/90 - 6/93

Number of systems being replaced - 51

**5. MILLE LACS COUNTY (Bradbury Township and Section 6 of Onamia Township)**

Grant Amount **\$41,400**, Approved Budget Period 5/90 - 6/92

Number of systems replaced - 32

**6. CITY OF BRUNO**

Grant Amount **\$172,303**, Approved Budget Period 8/92 - 1/95

Number of systems being replaced - 47

**7. HUBBARD TOWNSHIP (Hubbard Village)**

Grant Amount **\$8,108**, Approved Budget Period 8/92 - 7/93

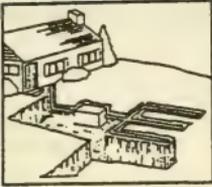
Number of systems being replaced - 5

**8. NICOLLET COUNTY (Klossner Village)**

Grant Amount **\$73,750**, Approved Budget Period 8/92 - 9/93

Number of systems being replaced - 21





# Wastewater Treatment Needs in Unsewered Areas

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Report to the Legislative Water Commission

Recommendations from the  
Unsewered Area Advisory Committee

January 1993



Minnesota Pollution  
Control Agency



# Wastewater Treatment Needs in Unsewered Areas

Report to the Legislative Water Commission

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## EXECUTIVE SUMMARY

Twenty-seven percent of the housing units in Minnesota are not connected to a public sewer; most of these homes are located in small cities, rural subdivisions and lakeshore areas across the state. The vast majority of the homes have on-site sewage treatment systems (septic systems) which do not conform to minimum standards of treatment and/or design. These nonconforming systems discharge raw or inadequately treated sewage to surface and ground waters, resulting in potentially serious health and environmental consequences.

In 1991, the Legislative Water Commission directed the Minnesota Pollution Control Agency and the Department of Trade and Economic Development to study issues related to the future of wastewater treatment financing in Minnesota. The agencies made several recommendations in February 1992, one of which was to form a committee that would develop approaches for addressing the growing health, environmental and financial needs of unsewered areas. In March of 1992, the Unsewered Area Advisory Committee (UAAC) was formed. The UAAC includes representatives from watershed districts, counties, cities, townships, regional development commissions, private contractors and state agencies.

Through months of research and meetings, the UAAC has attempted to take a comprehensive view of the wastewater treatment needs and related issues faced by unsewered areas. The recommendations contained in this report reflect this comprehensive viewpoint.

Recommendations contained in this report include:

- Implement Individual Sewage Treatment Standards (Mn. Rules Chapter 7080) on a statewide basis to ensure consistent standards regarding on-site systems.
- Require a mandatory certification program for professionals involved in the construction, inspection and maintenance or design of on-site systems.

- Institute a statewide enforcement program to maintain standards.
- Provide maintenance guidance to municipalities for the oversight of on-site systems within their jurisdictions.
- Continue funding the current Individual On-Site Wastewater Treatment Systems Grant Program and support program revisions based on environmental criteria.
- Provide public education on the benefits and importance of conforming on-site systems.
- Provide funding for research.
- Assist municipalities in wastewater planning efforts.

Legislative initiatives covering the first two recommendations have already been drafted, but implementation of all the recommendations is pivotal to addressing the environmental, administrative and financial needs that exist. It is hoped that the coordination between state government, local governments and the private sector that was fostered by the UAAC in making these recommendations will continue in their implementation.

## INTRODUCTION

The Legislative Water Commission reviewed municipal wastewater treatment system financing in Minnesota and made several recommendations during the 1991 legislative session. The Commission then directed the Minnesota Pollution Control Agency (MPCA) and the Public Facilities Authority (PFA) to study the issues that were raised and submit a report of their findings. The report, *Municipal Wastewater Treatment Financing*, was presented to the Legislative Water Commission in February 1992.

One of the issues the Commission directed the MPCA and the PFA to address was the wastewater treatment needs in unsewered areas served by on-site sewage treatment systems. Given the time available and the scope of the problem, only two recommendations regarding unsewered areas were made to the Commission in the *Municipal Wastewater Treatment Financing* report. These were:

1. Individual Sewage Treatment System Standards (Minnesota Rules Chapter 7080) should be implemented statewide; and
2. A task force should be formed to determine the most effective methods to provide technical, administrative and financial assistance to unsewered areas.

In March 1992, the Unsewered Area Advisory Committee (UAAC) was formed. Representatives from local governments (cities, counties, townships, watershed districts), regional development commissions, private firms and state agencies were selected for their backgrounds and interests in resolving problems in unsewered areas (see Appendix 1 for a listing of members). This report is the result of the findings and recommendations of this committee.

## SCOPE OF THE PROBLEM

### Description of the Problem

Twenty-seven percent or 491,925 of the housing units in Minnesota are not connected to a public sewer (unsewered). These figures reflect a 22 percent increase in the number of unsewered housing units between the 1980 and the 1990 census. (A 13 percent increase in the total number of housing units occurred during this time period.) The majority of these unsewered housing units are located in small cities, rural subdivisions and unincorporated areas of the state. In addition, numerous on-site sewage treatment systems are used for seasonal cabins, primarily concentrated in lakeshore areas; other systems are being built on urban lots located within cities.

An informal survey of county planning and zoning administrators conducted by the MPCA indicated that 70 percent of the on-site systems used by households are failing to provide adequate treatment or do not meet minimum state design and treatment standards. This large percentage is due, in part, to the lack of a mandated state standard and the lack of administrative and enforcement initiatives by local governments. Most of these systems were installed without the guidance of environmental protection policies.

Systems not properly treating sewage are described as "nonconforming" in Minnesota Rules Chapter 7080 (Individual Sewage Treatment System Standards). Nonconforming systems are classified as:

1. Failing systems having a surface discharge or backup;
2. Cesspools, drywells, leaching pits or seepage pits;
3. Systems with inadequate depth of soil above limiting soil characteristics (such as bedrock or a seasonally high water table); and/or
4. systems not installed according to all applicable local standards adopted and in effect at the time of the installation.

Nonconforming systems discharge raw or inadequately treated sewage to surface and ground waters, which can result in serious health and environmental consequences.

The effluent (discharge) from an on-site system septic tank contains solids, biological oxygen demand, chemical oxygen demand, phosphorus, nitrogen, chloride, bacteria, pathogens, viruses and organic chemicals. Effluent can also contain volatile organic compounds and other pollutants, which often get flushed down the drain. If wastes are not adequately treated, diseases can be transmitted and ground and surface waters can be contaminated.

## Description of the Need

Issues that typically need to be addressed in unsewered areas include:

1. Public health hazards
2. Ground and surface water pollution
3. Planning and zoning decisions
4. Technical requirements for conforming on-site systems
5. Education
6. Finances

These needs are reflected by the numerous phone calls to MPCA staff requesting assistance in these areas. Phone logs indicate that as many as 300 calls per month have been received. The issues are often further complicated by the presence of geologically sensitive areas, small or otherwise inadequate lots and limited knowledge of on-site sewage treatment by local officials and the public.

Municipalities which have recently requested assistance from the Individual On-Site Wastewater Treatment Systems Grants Program are used to illustrate the problems that exist in unsewered areas (see Appendix 2). These case studies are examples of the problems faced by many small communities throughout the state. There are a few programs that provide assistance to these communities, but they fall short of the needs that exist in the areas of administrative, technical and financial assistance.

## EXISTING PROGRAMS

### Technical and Administrative Programs

#### *Technical Programs*

Minnesota Rules Chapter 7080 (Individual Sewage Treatment System Standards) are the technical standards for the siting, design, construction and maintenance of on-site systems. Counties, or other local governments, voluntarily adopt and enforce these standards. Currently, 33 counties have adopted Chapter 7080 by reference and an additional 15 counties have adopted a similar ordinance county-wide.

In addition, land within 1000 feet of a lake or 300 feet from a river has been designated as "shoreland" by the Minnesota Department of Natural Resources (DNR). Existing on-site treatment systems within these areas are required to meet the provisions of Chapter 7080. These regulations are administered by local governments. All counties, with the exception of Hennepin and Ramsey, have been instructed by the DNR to adopt and implement the shoreland regulations.

#### *Training*

The University of Minnesota and the MPCA jointly provide workshops based on Chapter 7080 for on-site professionals on the proper siting, design, construction, inspection and maintenance of on-site systems. Over 900 professionals attended these workshops in 1992.

The MPCA administers a voluntary certification program for these on-site professionals. Certification criteria include attendance at a training workshop, passing a written examination and fulfilling practical field experience. Recertification is required every three years by fulfilling minimum attendance hours at applicable training programs. The MPCA has certified over 2,000 on-site professionals in the state.

Some local governments, including 25 counties, require MPCA certification for individual on-site system professionals. There is an overwhelming concurrence that requiring certification greatly reduces the number of complaints and the amount of time local governments need to spend addressing nonconforming systems.

Many local governments review, inspect and approve on-site systems. This is typically done by a county planning and zoning or environmental health office, but may be conducted by city or township officials. The range and scope of the local programs differ greatly.

For example, Olmsted County has a comprehensive program wherein it has adopted (and is enforcing) regulations that require:

1. permits for the installation, repair and use of all on-site systems;
2. licensing, bonding and MPCA certification of on-site system professionals; and
3. inspections and approvals of all new construction and repairs to on-site systems.

Other counties do not have county-wide regulations and perform little or no permitting or enforcement activities.

The MPCA reviews plans and specifications and issues permits for on-site systems that receive an average daily flow in excess of 10,000 gallons per day. The Minnesota Department of Health reviews plans and specifications for on-site systems that they regulate (state licensed facilities, buildings serving the public, etc.) with flows of less than 10,000 gallons per day.

#### *Administrative*

The Shoreland Management Grants Program administered by the DNR has made funding available for the implementation of shoreland ordinances. The funding may be used for administrative planning purposes such as doing surveys to locate nonconforming septic systems in a county. Funding for this program may not be available in the future, because of proposed state agency funding cuts. The Board of Water and Soil Resources has a funding program for implementing approved local water plans that could be used for some planning activities, if it relates to the priorities in the local plan.

## **Financial Programs**

### *Individual Programs*

Currently, a variety of programs exist that provide some form of financial assistance (usually loans) to individual homeowners and small businesses to upgrade or replace their

nonconforming on-site systems. The major emphasis of these programs is general property improvement. Income guidelines for many of these programs are strict, only providing assistance to homeowners with extremely low incomes.

These individual programs include two programs offered by the Farmers Home Administration, and three programs offered by the Minnesota Housing Finance Agency. The Housing Finance Agency also offers a loan program for rental property owners that covers multiple family dwellings, and the Minnesota Department of Trade and Economic Development offers a loan program for some tourism-related businesses.

### *Municipal Programs*

Many municipalities that need financial assistance to fund construction of on-site treatment systems have limited resources. Application processes and administrative requirements for some programs are difficult hurdles for many small municipalities. Planning assistance may be directly available through local Regional Development Commissions or Community Action Programs. (See Administrative section above.)

At this time, only one program exists solely for the purpose of funding on-site systems. The Individual On-Site Wastewater Treatment Systems Grants Program administered by the MPCA and the PFA provides approximately 50 percent grants to municipalities for site evaluation, design and construction of on-site treatment systems.

The State Revolving Loan Program offers low-interest loans for planning, design and/or construction of wastewater treatment facilities. State legislation was passed in 1992 establishing the Wastewater Infrastructure Fund (WIF) to provide supplemental financial assistance to the existing State Revolving Loan Program.

Rules governing the WIF are currently being written by the MPCA and the PFA. The proposed rules governing the fund will increase the chances for funding projects in unsewered areas by making such projects more competitive with projects in sewered areas. These rules create a new environmentally based criteria for ranking projects on a needs list that takes into account the specific problems in unsewered areas. The fund

will be jointly administered by the MPCA and the PFA.

Please refer to Appendix 3, "Financial Assistance Programs for Individual and Municipal Sewage Treatment Needs," for a summary of available programs in Minnesota.

## RECOMMENDATIONS

When asked "Who should administer programs to provide assistance in unsewered areas?" the general consensus from the UAAC members was that it should be the unit of government closest to the problem. Many of the following recommendations could be administered by local governments, especially at a county level. At present, a number of counties already have programs that cover some of these activities.

Another point that was agreed upon by a majority of the UAAC members, especially the ones representing local governments, was that if the state delegates any environment programs or mandates any new activities to be performed by local governments, then the state should provide financial support to administer the activities. To support even the administrative part of a county-based financial assistance program to unsewered areas would cost the state in excess of \$1 million per year (based on 1/4 staff person per county).

In order to provide the necessary guidance and support to local units of government, the legislature needs to support state government activities. State guidance, technical support and administrative support will also be needed for local government programs.

The UAAC established and prioritized the following recommendations. The first two recommendations need to be implemented immediately in order to provide overall structure and statewide consistency which will set the framework for addressing on-site sewage treatment problems.

### 1. Statewide Standards (Chapter 7080)

Legislation should be enacted that requires Minnesota Rules Chapter 7080 be implemented statewide to provide consistent standards for the design, location, installation

and maintenance of individual on-site systems.

### 2. Mandatory Certification Program

Legislation should be enacted requiring a mandatory certification program for on-site professionals. This will greatly reduce the number of inadequate on-site systems located, installed, designed, inspected and maintained by unqualified individuals. This will also prevent underbidding by unqualified contractors.

### 3. Statewide Enforcement

Legislation should also be enacted for a statewide enforcement program to provide a mechanism for bringing all on-site systems in the state up to code by the year 2005. On-site systems should, at a minimum, be inspected whenever there is a property transfer, before a building permit is issued, and if there is a complaint or nuisance condition. Nonconforming on-site systems would then be upgraded or replaced within a specified period of time in order to protect public health and the environment.

### 4. Maintenance Programs

Maintenance guidance should be provided to municipalities for the oversight of the on-site treatment systems within their jurisdictions. Municipalities should be required to track system maintenance by using a reporting system, or the municipalities could contract to have the systems maintained and bill the residents for the service.

### 5. Continuation of Current Funding Program

The Legislature should continue to support the current Individual On-Site Wastewater Treatment Systems Grant Program until a revised program, using environmental priorities, can replace it.

(See Related Issues)

## 6. Education

For many of the recommended solutions to be effective, education on the benefits and importance of conforming systems is necessary. People must be made aware that they are ultimately responsible for all the wastes they generate. Unlike the recycling of household wastes, on-site system problems haven't had the benefit of advertising campaigns and mass marketing. It's more difficult to illustrate the detrimental effects of pathogens (microscopic organisms that cause disease) than to show how our garbage is filling up the landfills.

There are three primary target groups that must be reached.

### a. Decision-makers

County commissioners, township boards, city councils and other local government decision-makers need to be educated due to their important role in resolving on-site system problems. Planning and zoning considerations, permitting, enforcement and incentive strategies are some of the key issues.

### b. General public

Educational materials need to be developed that target the public in unsewered areas so they understand the importance of these issues. For example, Mayor Douglas Blechinger of the City of Bruno had attempted over several years to convince the city of the need to resolve on-site system problems. Most of the city residents could not be convinced, until information about a homeowner who was ill as a result of a contaminated well became known. The attitude of many homeowners regarding on-site systems is that if sewage is not backing up in their basements or flowing in their yards, then there is no problem.

The University of Minnesota Extension Service could use their large information network to distribute educational materials such as fact sheets, videos or other media. Information could also be developed by state agencies and provided to local municipalities for distribution.

Providing information to the general public on the availability of financial assistance programs is also needed. This information could be provided by municipalities that are enforcing on-site system ordinances. Agencies that administer these programs should coordinate their public information activities to provide this information.

### c. Special groups

The banking and real estate communities need to be targeted as special groups. Mortgage/lending institutions need to understand how on-site treatment systems work, what a nonconforming system is, and who can inspect and approve systems. This education is especially important if on-site systems are to be brought into conformance at point of sale.

## 7. Research

Legislation should include funding for research in on-site wastewater treatment. Research would include investigation of alternative and possibly lower cost designs; and provide better data regarding siting, design and proper management of on-site systems in Minnesota's soils and climatic conditions.

A progressive research program is necessary to update the on-site training workshops and to provide the basis for additional education and technology improvements. Research is critical to verify decisions, identify potential problems and maximize the effectiveness of on-site systems. For this type of program to be effective, it must be coordinated and specific to the on-site industry. Funding must be provided to ensure that long-term testing and ongoing research occur.

Research should be coordinated by the University of Minnesota which is already involved in national on-site treatment research. Maintaining a primary focus, coordinating with the on-site industry and assimilating the information into the workshops for on-site professionals are key to the implementation of research results.

## 8. Planning Assistance

Planning assistance is also needed for municipalities. Determining whether on-site systems are the best environmental and most cost-effective solution for wastewater treatment is a difficult problem for the numerous municipalities which lack expertise in this area.

Planning for new development is especially critical to prevent new problems and to keep existing problems from getting worse.

New development planning should include site evaluation and subdivision review requirements to minimize the pollution threat from a high density of on-site systems and the disturbance of identified system locations. Requirements for new development will ensure successful treatment can take place before construction begins.

In order to provide effective treatment, on-site systems must be built on original soils. This means that treatment system locations must be identified and undisturbed prior to construction. Heavy equipment used during construction compacts the soil and can ruin its treatment capabilities.

A correctly built, operated and maintained on-site treatment system will last 20 or more years. Requiring two sites will allow adequate room for system replacement in the future.

Ideally, new development requirements should include:

- a. Minimum lot sizes and housing density;
- b. Two undisturbed suitable on-site system sites per lot;
- c. Site and grading plans which identify on-site systems; and
- d. Staking for on-site system areas.

## 9. Technical Approval Methodology

The MPCA, the University of Minnesota, and the Individual Sewage Treatment Systems Committee should develop a methodology to facilitate the use of promising innovative alternative on-site treatment systems.

Revisions to Minnesota Rules Chapter 7080 should include a performance standard for the level of treatment required from an individual sewage treatment system. Systems that consistently meet these performance standards would then be allowed under the code.

Alternative technology systems that provide a greater removal of nitrogen (denitrification), handle problem soil conditions and that work for small lots are technical priorities.

Coordination with local governments will be of primary importance in any approval of innovative alternative systems. The University of Minnesota Extension Service and the MPCA have the technical expertise, but local governments have the permitting authority. Responsibility and liability issues, such as who is responsible when a system fails to provide adequate treatment, must also be considered.

## 10. Municipal Financial Assistance

For the purpose of this report, municipalities are defined as cities, counties, townships, watershed districts and sewer districts. Unincorporated areas and other rural areas can all be placed within this definition.

Efforts to fund on-site systems should be concentrated on municipalities. Although all on-site systems in the state need to be brought into conformance with Minnesota Rules Chapter 7080, the greatest environmental benefit will be derived from concentrating limited funding sources on problem areas. Municipality-based projects will do the best job of resolving on-site system pollution problems, because all nonconforming systems within an area can be corrected and maintained with direct municipal oversight. The local municipality is also best able to determine problem areas.

MPCA's existing Individual On-site Wastewater Treatment Systems Grants Program provides grants to municipalities to assist in the replacement or upgrade of nonconforming individual on-site systems and small cluster systems (up to five

connections). The program funds up to 50 percent of the construction, site evaluation and design costs.

We recommend that a municipality-based program be offered that makes revisions to the present program as follows:

- a. Rank projects based first on environmental priority, and then on the financial capability of the community;
- b. Provide eligibility for seasonal residences (50 percent grant for permanent residences, 25 percent for seasonal residences);
- c. Allow up to five percent of total grant funding for municipal administrative costs; and
- d. Provide eligibility for the use of holding tanks as a last resort with the development of a maintenance plan.

## RELATED ISSUES

### Environmental Priority System

A priority system should be developed to concentrate on the most severe environmental problems. This system could be used to evaluate the environmental need in specific areas so that financial, technical and administrative assistance could first be provided in the areas with the greatest need. A priority system should evaluate and rank the following factors in the area to be served:

1. Percentage of nonconforming on-site systems;
2. System density (lot sizes);
3. Drinking water well setback (distance from the on-site system) problems;
4. Percentage of systems with surface discharges;
5. Depth to the high water table;
6. Other soil limiting factors such as fractured bedrock, dense clay, sugar sand, etc.;
7. Distance to a public sewer system with

capacity to accept the municipality's waste;

8. Resource value of the impacted water(s) of concern;
9. Impacted waters with identified water quality violations;
10. Priority of the project in county's Local Water Plan; and
11. Priority of the impacted waters as identified in future MPCA basin planning efforts.

### Injection Wells

The technical subcommittee of the UAAC addressed a related issue that is currently under federal scrutiny: underground injection (disposal) wells (Class IV and Class V wells). Any type of underground disposal device (drywell, cesspool, on-site system, french drain, etc.) which receives industrial/commercial wastewater, stormwater or domestic waste from more than 20 persons per day is classified by the U.S. Environmental Protection Agency (EPA) as an injection well. Concerns have been raised because on-site systems effectively treat individual domestic waste, but cannot treat most non-domestic and hazardous contaminants.

Any type of underground disposal device which receives hazardous waste is defined as a Class IV well and is banned under both the hazardous waste regulations and the underground injection control regulations. Most other underground disposal devices in Minnesota are considered Class V wells. Class V wells include large, domestic-only systems and individual on-site systems that discharge non-domestic waste. Cessation of the discharge, either by modifying building plumbing or installation of a holding tank, is required if contamination is likely. Some types of discharges may be allowed, but require approval (usually in the form of permits) from both EPA and MPCA.

Many rural communities have facilities which dispose of wastewater into Class V wells, and possibly into Class IV wells. These can be found in school bus barns, county highway garages, small manufacturing facilities, beauty shops, medical clinics and apartment buildings. Technical guidance and education are needed to promote use of wastewater management

alternatives which have less environmental impact.

### Water Conservation

Water conservation measures need to be encouraged. Water conservation measures are difficult to instill in Minnesota residents because water is perceived as abundant. Education is necessary to inform the general public how excess water affects the construction costs and life of an on-site system.

Other agencies have seen the need for water conservation measures. The plumbing code has been modified effective July 1, 1993, requiring all new homes that are constructed to install 1.6 gallon low-flow, floor-mounted toilets. The State Energy Code (MS 216C.19) requires 2.5 gallons per minute shower and kitchen faucets to be installed.

Olmsted County has adopted a progressive county-wide program endorsing a four step approach to wastewater: reduce, recycle/reuse, treat and dispose. These are further described by the county as follows:

1. Reduce—Minimize the volume of wastewater through water conservation and diversion of household hazardous waste;
2. Recycle/Reuse—Recover nutrients through the composting of kitchen and toilet wastes, applying septage and sludge as fertilizer, and the collection and product exchange of household hazardous wastes;
3. Treat—Treating the remaining wastewater through community and individual treatment systems that maximize nutrient recovery and minimize pollutant discharge to surface and ground water; and
4. Dispose—Disposing of the remaining wastewater products through dilution or isolation.

For water conservation purposes, incentives to install low-flow water-saving devices could be used and state guidance and education could be implemented to encourage a program similar to Olmsted County's.

### Septage

The proper maintenance of on-site treatment systems requires the removal, by pumping, of the solids that have accumulated in the septic tank. The product of this pumping is termed septage. It is estimated that 164 million gallons of septage would be generated per year if all systems in the state were properly maintained. Improper disposal of this material can result in contamination to ground and surface waters and soils.

The majority of septage is land applied to agricultural fields. The second most common disposal method is treatment at the local wastewater treatment plant. In many areas, the local treatment plant does not have the capacity to accept the extra-strength wastes contained in septage. Currently, there are no state rules and few local ordinances regulating the proper land application of septage. However, the MPCA and University of Minnesota have a training and certification program for pumpers. Some counties require that pumpers be certified to work within their jurisdictions.

The EPA has recently issued the revised regulations dealing with land application of municipal sewage sludge. These regulations now include the disposal of septage. Currently, the MPCA regulates the land application of sewage sludge. A decision has not yet been made on how the MPCA will deal with these revised regulations with regard to septage.

It is generally felt that there are no serious problems with how the majority of pumpers currently spread septage; however, the MPCA does receive complaints concerning improper land application methods. The proper disposal of septage needs to be addressed in dealing with wastewater treatment needs in unsewered areas.

### Other Financial Issues

As noted previously, there are several programs that provide financial assistance directly to individual homeowners and small businesses to upgrade or replace their nonconforming on-site systems. However, many of these home improvement programs have waiting lists of up to four years.

Because of the variety of individual assistance programs available, the UAAC is not recommending the creation of a separate program for funding individual on-site systems. However, through state and local agency coordination, having a certain percentage of funding set-aside for on-site systems should be investigated further. Continued state and federal support of these programs are necessary.

Another option would be to provide tax incentives for individuals that have upgraded or replaced their on-site systems with a conforming system. For example, 10 percent of the cost of the system could be used as a tax deduction.

## IMPLEMENTATION STRATEGIES

Many activities that are required for implementation of some of the recommendations that follow can be self-supporting. User fees are the most common source of revenue for local governments currently administering on-site system programs.

For example, Isanti County has adopted Minnesota Rules Chapter 7080. The county has a self-supporting program in which all on-site systems in shoreland areas must be brought up to code when property is transferred or whenever property improvements that require a building permit are needed. When these activities occur,

the county performs an on-site system inspection. Inspection fees from the property owners cover these costs.

Isanti County also licenses on-site system professionals. These professionals must be certified by the MPCA and obtain a \$5,000 bond. Fees vary from \$25 for site evaluators to \$100 per year for system installers. The program administered by Isanti County has been self-supporting for three years. This year, fees collected have generated excess revenue.

### ■ Recommendation #1—Require Statewide Standards (Chapter 7080)

Legislation would require counties to adopt and administer state standards for design, location, installation and maintenance (Minnesota Rules, Chapter 7080).

Target Implementation Date: January 1, 1995

Estimated Costs:

- Local Governments  
\$300 - \$600 (Ordinance adoption)  
unknown (Ordinance administration)

Possible Funding Sources: System permit fees could cover all costs, making this a self-supporting program.

### ■ Recommendation #2—Mandatory Certification Program

Legislation would require MPCA certification of all site evaluators, designers, installers, inspectors and pumpers. After initial certification, individuals would be recertified every three years.

Target Implementation Date: July 1, 1994

Estimated Costs:

- Local Governments  
\$60 per year per person (Staff certification/training)  
\$40 per year per person (Travel, lodging, miscellaneous expenses while attending training)
- Private Contractors  
\$60 per year per person (Staff certification/training)  
\$40 per year per person (Travel, lodging, miscellaneous expenses while attending training)
- State Agency (MPCA)  
\$180,000 per year (3 agency staff, salaries, supplies and expenses)

## Recommendation #2—Mandatory Certification cont.

### Possible Funding Sources:

- System permit, inspection and contractor licensing fees (local government)
- Contractor billings to clients
- Certification fees (MPCA)

The various fees above could cover all costs, making this a self-supporting program.

## ■ Recommendation #3—Statewide Enforcement

Legislation would require local governments to implement an enforcement program that would require all nonconforming systems be brought up to code.

**Target Implementation Date:** January 1, 1995

**Target Completion Date:** January 1, 2005 (All systems up to code)

### Estimated Costs:

- Local Governments (Counties)
  - \$50 - \$100 per system (Inspection)
  - \$10 - \$15 per system (Survey of nonconforming systems)
  - \$60 - \$100 per system (Enforcement action)
- Individuals (Homeowners, small businesses, etc.)
  - \$2,000 to \$10,000 (Replacement of nonconforming systems)

### Possible Funding Sources:

- System permit, inspection fees (local government)
- Enforcement penalties
- DNR Shoreland Management Grants (surveys, other planning)
- MPCA/PFA Individual On-site Wastewater Treatment System Grant Program
- MPCA/PFA State Revolving Loan Funds
- Home improvement loans
- Other private loans

#### ■ Recommendation #4 - Maintenance Program

Overall guidance is needed for municipalities to oversee proper maintenance of on-site systems.

Target Implementation Date: January 1, 1996

##### Estimated Costs:

- State Agencies (University of Minnesota Extension, MPCA and DNR)  
\$10,000 (Guidance development, publication and distribution)
- Local Governments  
\$1,000 (Start-up costs, education)  
\$100 - \$500 per year (Ongoing tracking, administration)
- Individuals  
\$25 - \$50 per year (Septic tank pumping and maintenance every three years)

##### Possible Funding Sources:

- Fees from pumpers (local governments)
- U.S. Environmental Protection Agency (educational programs)
- Legislative Commission on Minnesota Resources (educational programs)

#### ■ Recommendation #5—Continuation of Current Funding Program

Continuation of the Individual Wastewater Treatment Systems Grants Program will provide the best resolution of problems in an area. Funding is necessary to provide incentives and direction for municipalities to bring all systems into conformance.

Target Implementation Date: July 1, 1993 (1993/1994 Biennium)

##### Estimated Costs:

- State Agencies (MPCA, PFA)  
\$1,000,000 per year (Grants to municipalities - based on average cost of \$100,000 per project)  
\$80,000 per year (1 1/4 staff, salaries, supplies and expenses)
- Local Governments  
\$1,000 - \$5,000 per project (Administration)
- Individuals  
\$1,000 - \$5,000 per system (50 percent for the amount the grant doesn't cover.)

##### Possible Funding Sources:

- State Legislature (grants program)
- Municipal bonds
- Home improvement loans
- Other private loans (costs grant doesn't cover.)

### ■ Recommendation #6 —Education

Education is the key to success in attaining the goal of conforming on-site systems statewide.

**Target Implementation Date:** January 1, 1995

**Estimated Costs:**

- State Agencies (University of Minnesota Extension, MPCA)  
\$10,000 (Education program development)
- \$20,000 (Video, copying, distribution)
- \$20,000 (Public outreach to target groups)

**Possible Funding Sources:**

- U.S. Environmental Protection Agency
- Legislative Commission on Minnesota Resources (educational programs)
- video rental fees

### ■ Recommendation #7—Research

Legislation should include funding for research to support investigation of innovative on-site systems and maximize effectiveness of systems in Minnesota's soil and climate.

**Target Implementation Date:** April 1, 1995

**Estimated Costs:**

- University of Minnesota Extension  
\$250,000 per year (Research development, start-up and ongoing projects)

**Possible Funding Sources:**

- Legislative Commission on Minnesota Resources
- U.S. Environmental Protection Agency
- private industry

### ■ Recommendation #8 —Planning Assistance

Planning assistance to local governments is crucial if they are to develop adequate plans to address current and future wastewater treatment needs.

**Target Implementation Date:** January 1, 1995

**Estimated Costs:**

- State Agencies (University of Minnesota, MPCA)  
\$60,000 (3 agency staff, guidance development, publication)
- Other (League of Minnesota Cities, Association of Minnesota Counties)  
\$50,000 (Workshops, distribution)

**Recommendation # 8 cont.**

- Local Government  
Costs for staff and local officials, to attend workshops

**Possible Funding Sources:**

- Legislative Commission on Minnesota Resources
- Workshop registration fees

**■ Recommendation #9 — Technical Approval Methodology**

A technical approval methodology should be created that will review innovative systems. Performance standards should be added to Minnesota Rules Chapter 7080, and used as the basic criteria for this review.

**Target Implementation Date:** January 1, 1994

**Estimated Costs:** Costs can be covered through current activities.

**■ Recommendation #10 — Municipal Financial Assistance**

The greatest environmental benefits will be reached by concentrating on resolving problems on a municipality-wide basis. Revisions to the Individual On-site Wastewater Treatment Systems Grant Program will make environmental priorities the major focus.

**Target Implementation Date:** January 1, 1996

**Estimated Costs:**

- State Agency (MPCA)  
\$10,000 (Statute and rule revisions, corresponding program changes)  
See Recommendation #5

**Possible Funding Sources:**

- State Legislature

## CONCLUSION

Like many nonpoint source pollution issues, wastewater from individual on-site sewage treatment systems is generated from many diffuse sources. Each individual source may not be generating large amounts of pollution, but the cumulative effect of over 340,000 nonconforming on-site systems in Minnesota is a major concern.

Conforming on-site sewage treatment systems that adequately treat wastes is the ultimate goal of the recommendations contained in this report. In order for this to be accomplished, we need a multi-faceted, comprehensive approach to deal with the wastewater treatment needs in unsewered areas. Support and coordination at all levels of government is necessary to implement these recommendations and make this goal a reality.

## REFERENCES

- U.S. Department of Commerce, Bureau of the Census. *1990 Census of Population and Housing*. January 1992.
- U.S. Department of Commerce, Bureau of the Census. *1980 Census of Population and Housing*. August 1983.
- Recommendations of the Legislative Water Commission. *Municipal Wastewater Treatment Financing*. March 24, 1991.
- Minnesota Pollution Control Agency and the Minnesota Public Facilities Authority. *Municipal Wastewater Treatment Financing, Report to the Legislative Water Commission*. February 1992.
- Minnesota Pollution Control Agency. *Individual Sewage Treatment Systems Program Summary*. November 1992.
- Minnesota Pollution Control Agency and the Minnesota Department of Agriculture. *Nitrogen in Minnesota Groundwater*. Report to the Legislative Water Commission. December 1991.
- Technical Review Committee Report, *Individual Sewage Treatment Systems, Olmsted County, Minnesota*. December, 1990.

## Appendix 1

## UNSEWERED AREA ADVISORY COMMITTEE - LIST OF MEMBERS

NAME/ADDRESS/PHONE	ORGANIZATION REPRESENTING
Monte Aaker Minnesota Housing Finance Agency 400 Sibley Street St. Paul, Minnesota 55101 (612)296-9952	Housing Finance Agency (HFA)
Kurt E. Anderson, Mayor City of Cross Lake H.C. 3 Cross Lake, Minnesota 56442 (218)692-2688 (City Hall)	Association of Small Cities
Joe Basta Isanti County Zoning Department 221 Southwest 2nd Avenue Cambridge, Minnesota 55008 (612)689-5165	Association of Planning & Zoning Administrators (MACPZA)
Victoria Cook Nonpoint Source Section 520 Lafayette Road St. Paul, Minnesota 55155 (612)296-7248	Pollution Control Agency (MPCA)
Bob Derus City of Corcoran 9525 Cain Road Corcoran, Minnesota 55340 (612)420-2288	League of MN Cities
Lori Frekot Nonpoint Source Section 520 Lafayette Road St. Paul, Minnesota 55155 (612)296-8762	Pollution Control Agency (MPCA)
Greg Gross, Supervisor Standards Unit Assessment & Planning Section 520 Lafayette Road St. Paul, Minnesota 55155 (612)296-7213	Pollution Control Agency (MPCA)
Rolland Gulleckson Route 1, Box 92 Fertile, Minnesota 56540 (218)945-6299	Association of Watershed Districts
Dave Gustafson Univ. of MN Extension Service 201 Agricultural Engineering Bldg 1390 Eckles Avenue St. Paul, Minnesota 55108 (612)625-1214	University of Minnesota Extension Service

## UNSEWERED AREA ADVISORY COMMITTEE - LIST OF MEMBERS

NAME/ADDRESS/PHONE	ORGANIZATION REPRESENTING
Rick Hanna, Water Planner Blue Earth County P.O. Box 8608 Mankato, Minnesota 56002 (507)389-8384	Assn. of Minnesota Water Resources Administrators and Planners (AMWRAP)
Byron Jost Region 9 Development Commission 410 South 5th Street P.O. Box 3367 Mankato, Minnesota 56002-3367 (507)387-5643	Regional Development Commissions (RDC's)
Richard Lyman Richard O. Lyman & Associates 6519 Warren Avenue Edina, Minnesota 55439 (612)944-7957	Richard O. Lyman & Associates (Private Consulting Firm)
Keith Madson Box 248 Storden, Minnesota 56174 (507)445-3172 (H) or 445-3980 (W)	Association of Counties
Dave Nelson, Supervisor Programs Unit Nonpoint Source Section 520 Lafayette Road St. Paul, Minnesota 55155 (612)296-9274	Pollution Control Agency (MPCA)
Brian Noma MDH - Environmental Health Div. Water Supply & Engineering Sec. 925 Delaware Street S.E. Minneapolis, Minnesota 55414 (612)627-5121	Department of Health (MDH)
Allan Nordin 5955 South Linwood Drive Wyoming, Minnesota 55092 (612)462-5905	Association of Townships
Jon Olson Olson Sewer Service, Inc. 17638 Lyons Street Forest Lake, Minnesota 55025 (612)464-2082	Minnesota On-Site Treatment Contractor's Association (MOSTCA)

## UNSEWERED AREA ADVISORY COMMITTEE -- LIST OF MEMBERS

NAME/ADDRESS/PHONE	ORGANIZATION REPRESENTING
Ogbazghi Sium, Supervisor Land Use Unit Dept. of Natural Resources 500 Lafayette Road St. Paul, Minnesota 55155 (612)296-0444	Department of Natural Resources (DNR)
Doug Thomas MN Board of Water & Soil Resources 155 South Wabasha Street, Suite 1 St. Paul, Minnesota 55107 (612)297-5617	Board of Water & Soil Resources (BWSR)
Milan Thoreson Public Facilities Authority MN Dept of Trade & Economic Dev. 500 Metro Square Building 121 7th Place East St. Paul, Minnesota 55101-2146 (612)297-1982	Department of Trade & Economic Development (DTED) Public Facilities Authority (PFA)
Tom Trusinski Juran and Moody 400 North Robert Street St. Paul, Minnesota 55101 (612)224-1500	Juran & Moody (Bonding Firm)
Susan Vergin City of Hanover 11250 - 5th Street N.E. Hanover, Minnesota 55341	League of MN Cities
Dave Wall Nonpoint Source Section 520 Lafayette Road St. Paul, Minnesota 55155 (612)296-3847	Pollution Control Agency (MPCA)
Lothar Wolter, Jr. 13325 County Road 33 Norwood, Minnesota 55368 (612)467-3834 or 467-3832 (Farm)	Association of Townships

## Appendix 2

## UNSEWERED AREA CASE STUDIES

**City of Bruno**

The City of Bruno, population 130, is located in north central Pine County. Bruno consists of 45 single family homes, three churches, three small businesses (gas station, hair salon, bar), a post office, an elementary school and a senior citizen's center. Individual on-site systems service the entire City. All of these systems are nonconforming and need to be replaced.

Drinking water is obtained from individual wells. One homeowner has been diagnosed as having health problems directly related to the contamination of her well by her on-site system, and other homeowners have complained of odors and scum appearing in their water. The City is participating in the On-site Grants Program to resolve their on-site problems by constructing new, conforming on-site treatment systems.

**Klossner**

The community of Klossner, population 62, is part of Lafayette Township and located in Nicollet County. Klossner consists of 21 single family homes, six small businesses and two government buildings. Of the 28 on-site systems that serve the community, 25 are nonconforming. Of these nonconforming systems, nine have septic tanks that are piped to the county tile and ditch system allowing inadequately treated sewage to flow into the Minnesota River.

Nicollet County is sponsoring a project to construct new, conforming on-site systems through the On-site Grants Program to resolve the problems in Klossner. County staff have informed the MPCA that there are several other areas like Klossner in the county that need assistance.

**Middleville Township**

Middleville Township is adjacent to the City of Howard Lake in Wright County. The Town Board requested assistance through the On-site Grants Program for a portion of the Township that consists of 40 single family homes on the southeast shore of Howard Lake.

All of these homes have nonconforming systems. Of the 40 homes, 25 have septic tanks that are piped to a tile line or ditch, both of which flow into Howard Lake. The other 15 are piped directly to the lake. According to the Town Board, no septic tank maintenance has been done by the homeowners. Subsequently, untreated (raw) sewage is being discharged directly or indirectly into Howard Lake.

The Middleville Town Board approached the MPCA for financial assistance to replace the existing nonconforming systems with new on-site cluster systems; however, proposed annexation by the City of Howard Lake has halted the project. A majority of Township residents signed petitions in favor of the annexation. In a December 1992 ruling, the annexation of this area of Howard Lake was approved.

The City of Howard Lake intends to run sewer and water lines around much of the lake. The sewage will be transported and treated at the City's Class B wastewater treatment plant if the City can obtain financial assistance for the construction of the sewer and water lines.

**FINANCIAL  
ASSISTANCE  
PROGRAMS**

**for**

**Individual and  
municipal sewage  
treatment needs**

## FINANCIAL ASSISTANCE PROGRAMS

## INTRODUCTION

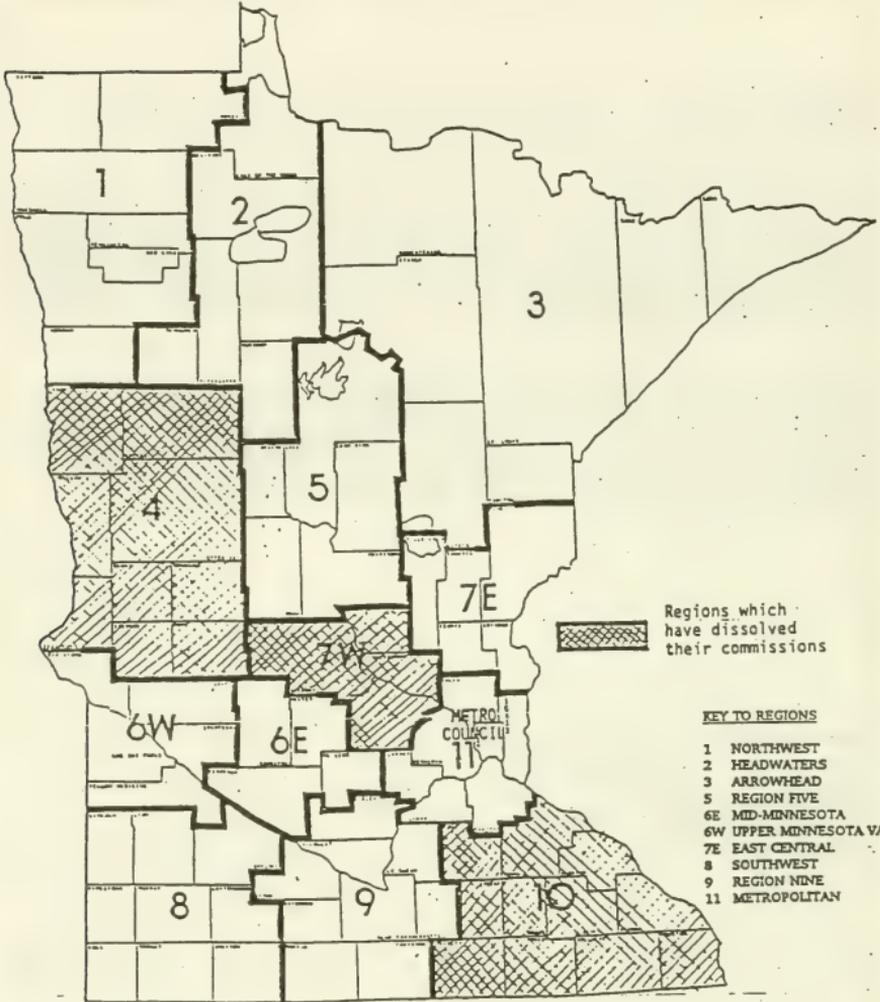
The financial assistance programs listed in this pamphlet will fund either municipal wastewater treatment type projects or individual on-site treatment system type projects, although these projects will not be the primary purpose of some programs. The intention of compiling this pamphlet was to provide general information on a variety of possible funding sources for interested parties to pursue on their own.

There may be other financial assistance programs available in your area. Regional Development Commissions, Community Action Councils, local counties, watershed districts and/or rural cooperatives may have information on additional funding sources. Listings of Regional Development Commissions and Community Action Councils (including Community Action Programs, Housing and Regional Development Agencies, etc.) follow this introduction.

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Minnesota Pollution Control Agency  
Division of Water Quality  
520 Lafayette Road  
St. Paul, Minnesota 55155  
(612)296-7248

Draft II 9/92

# Minnesota Development Regions



## REGIONAL DEVELOPMENT COMMISSIONS

REGION	REPRESENTATIVE	EXECUTIVE DIRECTOR
NORTHWEST (1)	Joe Bovette Hallock, MN 56728	Leon Heath 525 Brooks Ave. Thief River Falls, MN 56701 (218)681-2637
HEADWATERS (2)	A. Morris Gorden Box 100 Blackduck, MN 56630 (218)835-7720	John Ostrem 722 - 15th Street PO Box 906 Bemidji, MN 56601 (218)751-3108
ARROWHEAD (3)	Chester Lidskog HC 86, Box 46 Grand Marais, MN 55604 (218)387-2397	Henry Hanka 330 Canal Park Drive Duluth, MN 55802 (218)722-5545 or 1-800-232-0707
REGION 5 (5)	Fred Martin Route 2 Akeley, MN 56433 (218)675-6675	Leyten Fontaine 611 Iowa Avenue Staples, MN 56479 (218)894-3233
MID-MINNESOTA (6E)	Charles Warner Box 333 Brownton, MN 55312 (612)328-4445	H. Eugene Hippe 333 W. 6th St. Willmar, MN 56201 (612)235-8504
UPPER MN VALLEY (6W)	LeRoy Jans Route 4, Box 163 Montevideo, MN 56433 (612)669-7665	Paul Michaelson 323 West Schlieman Appleton, MN 56208 (612)289-1981 or 1-800-752-1983
EAST CENTRAL (7E)	Laurence Collin Route 2 Isanti, MN 55040 (612)689-4891	Roger Ames 100 South Park Street Mora, MN 55051 (612)679-4065
SOUTHWEST (8)	Milford Gentz RR 1, Box 85 Lakefield, MN 56150 (507)694-1517	Randy Jorgenson 2524 Broadway Avenue Slayton, MN 56172 (507)836-8549
REGION 9 (9)	Marlin Gratz 703 Washington Ave. Fairmont, MN 56301 (612)665-2377	Terence Stone PO Box 3367 Mankato, MN 56002 (507)387-5643 or 1-800-450-5643
METRO COUNCIL (11)	Mary Hauser 616 Hall Avenue Birchwood, MN 55110	David Renz 230 E. 5th St., 4th Floor St. Paul, MN 55101 (612)291-6359

MINNESOTA HOUSING FINANCE AGENCY REHABILITATION LOAN PROGRAMS  
LOAN ADMINISTRATION CENTERS

COUNTY	AGENCY	ADDRESS	PHONE
Aitkin	Lakes & Pines CAC	129 W. Forest Ave. Mora, 55051	612-679-1800
Anoka	Anoka Cty. CAP	1201-89th Ave. NE, #345 Blaine 55434	612-783-4739
Becker	Becker County HRA	Box 981 Detroit Lakes 56501	218-847-1462
Beltrami	Bi-County CAC	510 Paul Bunyan DR SW Bemidji 56601	218-751-4631
Benton	Tri County AP	700 Mall Germain St. Cloud 56301	612-251-1612
Big Stone	Big Stone Cty. HRA	20 SE 2nd St. Ortonville 56278	612-839-2123
Blue Earth	MN Valley AC	PO Box 3327 Mankato 56001	507-345-6822
Brown	MN Valley AC	PO Box 3327 Mankato 56001	507-345-6822
Carlton	Lakes & Pines CAC	129 W. Forest Ave. Mora, 55051	612-679-1800
Carver	Carver Cty. HRA	308 N. Broadway, Box 87 Carver 55315	612-448-7715
Cass	Bi-County CAC	510 Paul Bunyan DR SW Bemidji 56601	218-751-4631
Chippewa	Chippewa Cty. HRA	11th St. & Washington Montevideo 56265	612-269-6414
Chisago	Chisago Cty. HRA	313 N. Main St., Rm. 174 Center City 55012	612-462-7999
Clay	Clay Cty. HRA	510 Center A.E., Box 99 Dilworth 56529	218-233-8883
Clearwater	Clearwater Cty. HRA	PO Box 58 Bagley 56621	218-694-2296
Cook	Arrowhead EOA	702 3rd A.S. Virginia 55792	218-749-2912
Cottonwood	Western CA	Box 246 Marshall 56258	507-537-1416
Crow Wing	Crow Wing Cty. SSC	Box 686 Brainerd 56401	218-828-2915
Dakota	Dakota Cty. HRA	2496-145th St. W. Rosemount 55068	612-423-4800
Dodge	SEMCAC, Inc.	Box 549 Rushford 55971	507-864-7741
Douglas	Douglas Cty. HRA	115 3rd A.W. Alexandria 56308	612-762-2381
Faribault	MN Valley AC	PO Box 3327 Mankato 56001	507-345-6822
Fillmore	SEMCAC, Inc.	Box 549 Rushford 55971	507-864-7741
Freeborn	SEMCAC, Inc.	Box 549 Rushford 55971	507-864-7741

Goodhue	Goodhue-Rice- Wabasha CAC	Box 157 Zumbrota 55992	507-732-7391
Grant	Grant Cty. HRA	Courthouse Elbow Lake 56531	218-685-4494
Hennepin	Hennepin Cty. OPD	822 S. 3rd St. #310 Minneapolis 55415	612-348-5619
Houston	SEMCAC, Inc.	Box 549 Rushford 55971	507-864-7741
Hubbard	Becker Cty. HRA	Box 982 Detroit Lakes 56501	218-847-1462
Isanti	Lakes & Pines CAC	129 W. Forest Ave. Mora 55051	612-679-1800
Itasca	Koochiching- Itasca AC	Box 828 Grand Rapids 55744	218-326-0344
Jackson	Western CA	Box 246 Marshall 56258	507-537-1416
Kanabec	Lakes & Pines CAC	129 W. Forest Ave. Mora 55051	612-679-1800
Kandiyohi	Heartland CAA	Box 1359 Willmar 56201	612-235-0850
Kittson	NW MN Multi Co HRA	Box 128 Mentor 56736	218-637-2431
Koochiching	Koochiching- Itasca AC	Box 828 Grand Rapids 55744	218-326-0344
LacQuiParle	Prairie Five CAC	PO Box 695 Montevideo 56265	612-269-6578
Lake	Arrowhead EOA	702 3rd A.S. Virginia 55792	218-749-2912
Lake of the Woods	NW MN Multi Co HRA	Box 128 Mentor 56736	218-637-2431
Le Sueur	Le Sueur Cty. HRA	106 N. Main St. Le Sueur 56058	612-665-3323
Lincoln	Western CA	Box 246 Marshall 56258	507-537-1416
Lyon	Western CA	Box 246 Marshall 56258	507-537-1416
Mahnomen	Becker Cty. HRA	Box 982 Detroit Lakes 56501	218-847-1462
Marshall	NW MN Multi Co HRA	Box 128 Mentor 56736	218-637-2431
Martin	MN Valley AC	PO Box 3327 Mankato 56001	507-345-6822
McLeod	Hutchinson Comm. Devel. Corp.	37 Washington A.W. Hutchinson 55350	612-587-7500
Meeker	Heartland CAA	Box 1359 Willmar 56201	612-235-0850
Mille Lacs	Lakes & Pines CAC	129 W. Forest Ave. Mora 55051	612-679-1800
Morrison	TCC	404 2nd Ave. NE Little Falls 56345	612-632-3691
Mower	Mower Cty. HRA	1105-1/2 8th Ave. NE Austin 55912	507-437-9527
Murray	SW MN Opp Council	Box 787 Worthington 56187	507-376-4195

Nicollet	MN Valley AC	PO Box 3327 Mankato 56001	507-345-6822
Nobles	SW MN Opp Council	Box 787 Worthington 56187	507-376-4195
Norman	NW MN Multi Co HRA	Box 128 Mentor 56736	218-637-2431
Olmsted	Rochester HRA	2116 Campus Dr SE, #10 Rochester 55904	507-285-8224
Ottertail	Fergus Falls HRA	225 W. Washington Fergus Falls 56537	218-739-3249
Pennington	NW MN Multi Co HRA	Box 128 Mentor 56736	218-637-2431
Pine	Lakes & Pines CAC	129 W. Forest Ave. Mora 55051	612-679-1800
Pipestone	SW MN Opp Council	Box 787 Worthington 56187	507-376-4195
Polk	NW MN Multi Co HRA	Box 128 Mentor 56736	218-637-2431
Pope	W. Central MN CA	Box 127 Elbow Lake 56531	218-685-4486
Ramsey	Metro HRA	230 E. 5th St. St. Paul 55101	612-291-6596
Redwood	Western CA	Box 246 Marshall 56258	507-537-1416
Renville	Heartland CAA	Box 1359 Willmar 56201	612-235-0850
Red Lake	NW MN Multi Co HRA	Box 128 Mentor 56736	218-637-2431
Rice	City of Faribault	208 NW 1st Ave. Faribault 55021	507-334-2222
Rock	SW MN Opp Council	Box 787 Worthington 56187	507-376-4195
Roseau	NW MN Multi Co HRA	Box 128 Mentor 56736	218-637-2431
St Louis	Arrowhead EOA	702 3rd Ave. S. Virginia 55792	218-749-2912
Scott	Carver Cty. HRA	308 N. Broadway, Box 87 Carver 55315	612-448-7715
Sherburne	Tri County AP	700 Mall Germain St. Cloud 56301	612-251-1612
Sibley	MN Valley AC	PO Box 3327 Mankato 56001	507-345-6822
Stearns	Stearns Cty. HRA	619 Mall Germain, #212 St. Cloud 56301	612-252-0880
Steele	SEMCAC, Inc.	Box 549 Rushford 55971	507-864-7741
Stevens	Stevens Cty HRA	County Courthouse Morris 56267	612-589-1393
Swift	Swift Cty. HRA	Box 286 Benson 56215	612-843-4676
Todd	Todd Cty. SS	212 2nd Ave. S. Long Prairie 56347	612-732-4423
Traverse	W. Central MN CA	Box 127 Elbo Lake 56531	218-685-4486

Wabasha	Goodhue-Rice- Wabasha CAC	Box 157 Zumbrota 55992	507-732-7391
Wadena	Wadena HRA	222 SE 2nd St. Wadena 56482	218-631-2161
Waseca	Waseca County	Courthouse, 307 N. State Waseca 56093	507-835-0653
Washington	Washington Cty. HRA	321 Broadway Ave. St. Paul Park 55071	612-458-0936
Watonwan	MN Valley AC	PO Box 3327 Mankato 56001	507-345-6822
Wilkin	City of Breckenridge	420 Nebraska Ave. Breckenridge 56520	218-643-1173
Winona	SEMCAC, Inc.	Box 549 Rushford 55971	507-864-7741
Wright	Wright Cty. CA	Box 787 Maple Lake 55358	612-963-6500
Yellow Medicine	Yellow Medicine Cty. HRA	11th St. & Washington Montevideo 56265	612-269-6414

MINNESOTA HOUSING FINANCE AGENCY REHABILITATION LOAN PROGRAMS  
LOAN ADMINISTRATION CENTERS

CITIES	ADMINISTRATION CENTER	ADDRESS	PHONE
Albert Lea	City of Albert Lea	221 E. Clark St. Albert Lea 56007	507-377-4300
Bloomington	Bloomington HRA	2215 W. Old Shakopee Bloomington 55431	612-887-9637
Columbia Hghts.	Columbia Heights HRA	590-40th Ave. NE Columbia Heights 55421	612-788-3417
Austin	Austin HRA	200 1st Ave. NE Austin 55912	507-437-8516
Crookston	NW MN Multi Co HRA	Box 128 Mentor 56736	218-281-5334
Duluth	Duluth HRA	222 E. 2nd St. Duluth 55816	218-726-2876
E. Grand Forks	NW MN Multi Co HRA	Box 128 Mentor 56736	218-773-2371
Faribault	City of Faribault	208 NW 1st Ave. Faribault 55021	507-334-2222
Fergus Falls	Fergus Falls HRA	225 W. Washington Fergus Falls 56537	218-739-3249
Minneapolis	Minneapolis CDA	1800 1st Ave. S. Minneapolis 55403	612-673-5293
	Northside NHS	1501 Dupont Ave. N. Minneapolis 55411	612-521-3581
	Southside NHS	3030 Nicollet Minneapolis 55408	612-823-5216
Moorhead	City of Moorhead	500 Center Ave. Moorhead 56560	218-299-5344
Pipestone	City of Pipestone	119 2nd Ave. SW Pipestone 56164	507-825-3324
Red Wing	Red Wing HRA	433 W. 4th St. Red Wing 55066	612-388-2372
St. Cloud	St. Cloud HRA	619 Mall Germain #212 St. Cloud 56301	612-252-0880
St. Louis Park	City of St. Louis Park	5005 Minnetonka Blvd. St. Louis Park 55416	612-924-2591
St. Paul	St. Paul PED	494 Sibley St. St. Paul 55101	612-228-3109
	Dayton's Bluff NHS	951 E. 5th St. St. Paul 55106	612-774-6995
	Westside NHS	127 W. Winifred St. Paul 55107	612-292-8710
So. St. Paul	So. St. Paul HRA	125-3rd Ave. N. So. St. Paul 55075	612-451-1838
Willmar	Willmar HRA	302 SW 4th St. Willmar 56201	612-235-8637

**INDIVIDUAL  
FINANCIAL  
ASSISTANCE  
PROGRAMS**

## FINANCIAL ASSISTANCE PROGRAMS

TOURISM LOAN PROGRAM  
Minnesota Department of Trade & Economic Development

- PURPOSE/DESCRIPTION:** To provide low-interest financing to existing tourism-related businesses that provide overnight lodging.
- ELIGIBLE APPLICANTS:** Corporations, sole proprietorships or partnerships who are engaged in an existing tourism-related business providing overnight lodging, including: resorts, bed and breakfast inns, cabins or cottages, hotels, motels, ski lodges and ski resorts, campgrounds and recreational vehicle parks.
- PROJECT ELIGIBILITY:** New building construction and renovation, site preparation, and other construction that will enhance property value and increase customer satisfaction, and equipment. The program does cover septic systems.
- FINANCIAL ASSISTANCE:** Two types of assistance are available.
- Participation Loans - State funds are used in conjunction with loaned funds from financial institutions.
- Direct Loans - Only proposed projects of under \$10,000 may receive a direct loan. The borrower must fund 50% of the project with private financing.
- The base interest rate for the state's loan is fixed at the average yield rate for U.S. Treasury notes of comparable maturity. The actual interest rate is two percentage points less than the base rate. The state's interest rate is fixed for the term of the loan.
- The interest rate for the bank's loan is negotiated between the bank and the borrower. All loans are secured by collateral and personal guarantee.
- CURRENT FUNDING:**
- FUNDING SOURCE:** Department of Trade and Economic Development
- ASSISTANCE AMOUNT:** The maximum direct loan is \$5,000. The maximum state loan may not be for more than 50% of the total project cost or \$50,000, whichever is less.
- APPLICATION DATES:** Open on a year-round basis through the Community Development Division's single application process.
- CONTACT:** Department of Trade & Economic Development  
Community Development Division  
900 American Center Building  
150 East Kellogg Boulevard  
St. Paul, Minnesota 55101-1421  
(612)296-5005 (Metro area)  
1-800-657-3858 (Outstate)

## FINANCIAL ASSISTANCE PROGRAMS

RENTAL REHABILITATION LOAN PROGRAM  
Minnesota Housing Finance Agency

- PURPOSE/DESCRIPTION: Property improvement loans for residential rental property.
- ELIGIBLE APPLICANTS: Residential rental property owners whose property is occupied primarily by low to moderate income tenants.
- PROJECT ELIGIBILITY: Most basic improvements are eligible to be financed. Conversion from nonresidential use to residential use is not permitted, nor is the construction of additional dwelling units. This loan is AVAILABLE only in CERTAIN SELECTED AREAS OF THE STATE.
- FINANCIAL ASSISTANCE: Installment loans are available at the simple interest rate of 7.45%. Maximum loan term is 15 years. Loans over \$5,000 are secured with a mortgage.
- CURRENT FUNDING: \$1,500,000 per year
- FUNDING SOURCE: Minnesota Housing Finance Agency
- ASSISTANCE AMOUNT: Up to \$15,000 in financing may be available per single family structure. Up to \$8,000 per unit may be available for multiple family structures, up to a maximum of \$40,000 per structure. Loans are not assumable and are due upon sale of the property.
- APPLICATION DATES: Open
- CONTACT: Greg Baron  
Minnesota Housing Finance Agency  
400 Sibley Street, Suite 300  
St. Paul, Minnesota 55101  
(612)297-3123

## FINANCIAL ASSISTANCE PROGRAMS

DEFERRED LOAN PROGRAM  
Minnesota Housing Finance Agency

- PURPOSE/DESCRIPTION:** To assist low-income homeowners in financing home improvements which directly affect the safety, habitability, energy efficiency, and accessibility of their homes.
- ELIGIBLE APPLICANTS:** Borrower's total household income after adjustments may not exceed \$8,500 per year. The value of the borrower's assets, after certain exclusions, cannot exceed \$25,000.
- PROJECT ELIGIBILITY:** Owner-occupied properties that contain no more than two dwelling units and will be reasonably safe, habitable, and energy efficient for the term of the loan. Most basic and necessary improvements may be financed.
- FINANCIAL ASSISTANCE:** Zero interest, deferred loans which are forgiven after ten years, unless the borrower sells, transfer, or ceases to live in the property during that ten year period.
- CURRENT FUNDING:** \$8,600,000 (1992-1993)
- FUNDING SOURCE:** Minnesota Housing Finance Agency
- ASSISTANCE AMOUNT:** Up to \$9,000 may be borrowed.
- APPLICATION DATES:** Open
- CONTACT:** Sue Ude  
Minnesota Housing Finance Agency  
400 Sibley Street, Suite 300  
St. Paul, Minnesota 55101  
(612)296-8844

REVOLVING LOAN PROGRAM  
Minnesota Housing Finance Agency

PURPOSE/DESCRIPTION: To provide rehabilitation financing to low and moderate income homeowners who are unable to qualify for other types of assistance.

ELIGIBLE APPLICANTS: Owner-occupants with adjusted incomes of \$15,000 or less in the seven-county metro area, or \$12,000 or less in Greater Minnesota. Applicants may not have assets in excess of \$25,000 (certain assets excluded) and cannot be eligible for other housing rehabilitation financing programs.

PROJECT ELIGIBILITY: Owner-occupied housing of no more than two units; manufactured housing may also be eligible.

FINANCIAL ASSISTANCE: Installment loans with an interest rate of 3%. Maximum loan term is 15 years.

CURRENT FUNDING: \$2,500,000

FUNDING SOURCE: Minnesota Housing Finance Agency

ASSISTANCE AMOUNT: Maximum loan is \$9,000. Additional loans may be possible after two years; total to a borrower cannot exceed \$15,000.

APPLICATION DATES: Open

CONTACT: Sue Ude  
Minnesota Housing Finance Agency  
400 Sibley Street, Suite 300  
St. Paul, Minnesota 55101  
(612)296-8844

## FINANCIAL ASSISTANCE PROGRAMS

THE GREAT MINNESOTA FIX-UP FUND  
Minnesota Housing Finance Agency

- PURPOSE/DESCRIPTION:** To assist homeowners in increasing the livability and energy efficiency of their existing housing by providing property improvement loans.
- ELIGIBLE APPLICANTS:** Owner who occupies the property to be improved and has an ability to repay the loan. Annual household income cannot exceed \$41,000.
- PROJECT ELIGIBILITY:** Most improvements which increase the livability or energy efficiency of a home are eligible. Ineligible improvements include: swimming pools, patios, decks, fireplaces, and other recreational or entertainment facilities. Home must be owner-occupied and consist of no more than four units. Mobile homes and trailers are not eligible unless they are fixed on a permanent foundation and taxed as real property.
- FINANCIAL ASSISTANCE:** Installment loans with an interest rate of 3%, 5%, 7%, 9%, or 9.75%, based on the projected income of the household at the time of loan application.
- CURRENT FUNDING:** \$18,000,000 per year
- FUNDING SOURCE:** Minnesota Housing Finance Agency
- ASSISTANCE AMOUNT:** Maximum loan amount is \$15,000; maximum term of 15 years. Loans are not assumable and are due upon sale of the property. Loans over \$2,500 must be secured with a mortgage.
- APPLICATION DATES:** Open
- CONTACT:** Kathy Dipprey Aanerud  
Minnesota Housing Finance Agency  
400 Sibley Street, Suite 300  
St. Paul, Minnesota 55101  
(612)297-3121

## FINANCIAL ASSISTANCE PROGRAMS

SINGLE FAMILY HOUSING HOME OWNERSHIP LOANS (502) PROGRAM  
 U.S. Department of Agriculture  
 Farmers Home Administration (FmHA)

PURPOSE/DESCRIPTION: Loan funds may be used to build, buy, improve or repair homes in rural communities.

ELIGIBLE APPLICANTS: Low-to-moderate income families in rural communities with an adjusted income within county limits.

PROJECT ELIGIBILITY: After improvements are made, the home must be structurally sound, functionally adequate, and meet health, safety and energy conservation standards.

FINANCIAL ASSISTANCE: Loans are based upon repayment ability of applicant.

CURRENT FUNDING:

FUNDING SOURCE: U.S. Department of Agriculture

ASSISTANCE AMOUNT: Determined by applicant family affordability.

APPLICATION DATES: On-going.

CONTACT: County FmHA offices

## FINANCIAL ASSISTANCE PROGRAMS

RURAL HOUSING LOANS/GRANTS (504) PROGRAM  
 U.S. Department of Agriculture  
 Farmers Home Administration (FmHA)

PURPOSE/DESCRIPTION: Funds are used to assist very low income homeowners to repair or improve their homes by removing health and safety hazards.

ELIGIBLE APPLICANTS: Owner-occupant of a single-family dwelling located in an FmHA eligible rural area.

PROJECT ELIGIBILITY: Installation/repair of water and sewer systems in addition to code improvements, energy conservation measures and other non-cosmetic rehabilitation activities.

FINANCIAL ASSISTANCE: Loans at 1% interest with maximum 20 year term. Grants to be repaid if property sold within 3 years.

CURRENT FUNDING:

FUNDING SOURCE: U.S. Department of Agriculture

ASSISTANCE AMOUNT: Maximum of \$15,000, grant amount not to exceed \$5,000.

APPLICATION DATES: On-going.

CONTACT: County FmHA offices

## FINANCIAL ASSISTANCE PROGRAMS

TACONITE TAX RELIEF AREA GRANT PROGRAM  
Iron Range Resources and Rehabilitation Board (IRRRB)

- PURPOSE/DESCRIPTION:** To leverage local, state, federal and private funds to support community development and the economic growth of the Taconite Tax Relief Area. Grants will be awarded to eligible local units of government and non-profit organizations to help them address their most critical community/economic development needs.
- ELIGIBLE APPLICANTS:** Cities, Townships, Counties, Indian Tribal Governments, and Non-profit Organizations located within the Taconite Tax Relief Area.
- PROJECT ELIGIBILITY:** All projects will be evaluated on a project-by-project competitive basis, and will be reviewed on the following criteria:
- |                      |   |
|----------------------|---|
| <b>JOBS</b>          | The direct or indirect retention or creation of employment opportunities.                   |
| <b>LEVERAGE</b>      | The leverage of respective funding sources compared to total project costs.                 |
| <b>RELATIVE NEED</b> | The project's degree of need or urgency as compared to total project costs.                 |
| <b>IMPACT</b>        | The impact of the project on the region and the area most directly served by the applicant. |
| <b>VIABILITY</b>     | The financial, economic and technical feasibility of the project.                           |
- FINANCIAL ASSISTANCE:** There is no set percentage for IRRRB grants. Projects are partially evaluated on the combination of funding - local, other state, federal, etc. that will contribute.
- CURRENT FUNDING:**
- FUNDING SOURCE:** IRRRB
- ASSISTANCE AMOUNT:** Grant awards for a single project are limited to a maximum of \$250,000 in a single one-year funding cycle. Projects will receive funding for a maximum of two funding cycles or \$500,000.
- APPLICATION DATES:** A project profile must be submitted and approved before any formal application is made. Project profiles may be submitted January 1 through April 15 each year.
- CONTACT:** Iron Range Resources and Rehabilitation Board  
Community Development Division  
P.O. Box 441  
Highway 53 South  
Eveleth, Minnesota 55734-0441  
(218)744-2993

## FINANCIAL ASSISTANCE PROGRAMS

SMALL CITIES DEVELOPMENT PROGRAM  
Minnesota Department of Trade & Economic Development

- PURPOSE/DESCRIPTION:** To provide decent housing, a suitable living environment and expanded economic opportunities, principally for persons of low-to-moderate income.
- Funds from different categories may be used for housing rehabilitation, wastewater treatment and collection systems, municipal water projects, storm sewers, flood control projects, other municipal and economic development projects (such as downtown rehabilitation).
- ELIGIBLE APPLICANTS:** Cities and townships with populations under 50,000 and counties with populations under 200,000.
- PROJECT ELIGIBILITY:** Proposed projects must meet one of three national objectives:
1. Benefit low-and-moderate income persons;
  2. Eliminate slum or blight conditions; or
  3. Eliminate an urgent threat to health or public safety.
- FINANCIAL ASSISTANCE:** Available funds are subdivided into three general categories:
1. Housing Grants
  2. Public Facility Grants
  3. Comprehensive Grants
- CURRENT FUNDING:** Approximately \$17,000,000 (1993)
- FUNDING SOURCE:** U.S. Department of Housing & Urban Development
- ASSISTANCE AMOUNT:** Maximum grant award for Housing and Public Facility projects is \$600,000. Maximum for Comprehensive projects is \$1.4 million.
- APPLICATION DATES:** Part One of the Community Development Application may be submitted at any time. Complete applications (including Part 2) must be received by September 1.
- CONTACT:** Department of Trade & Economic Development  
Community Development Division  
900 American Center Building  
150 East Kellogg Boulevard  
St. Paul, Minnesota 55101-1421  
(612)296-5005 (Metro area)  
1-800-657-3858 (Outstate)

## FINANCIAL ASSISTANCE PROGRAMS

WATER AND WASTE DISPOSAL LOANS AND GRANTS PROGRAM  
U.S. Department of Agriculture  
Farmers Home Administration (FmHA)

- PURPOSE/DESCRIPTION:** Funds are used for water, sewer, storm sewer and solid waste systems.
- ELIGIBLE APPLICANTS:** Public Entities (Cities, townships, counties or special districts)
- PROJECT ELIGIBILITY:** The project service area must be under 10,000 in population. Three different loan rates are available, and are tied to the median income of the community. Security is G.O. bond, repayment by special assessments and user fees on property taxes.
- FINANCIAL ASSISTANCE:** Combination of loans and grants. Loan terms are 30 years maximum. Grants are dependent upon Minnesota's allocation and the Median Household Income of the service area, and cannot exceed 50% of the project total.
- CURRENT FUNDING:**
- FUNDING SOURCE:** U.S. Department of Agriculture
- ASSISTANCE AMOUNT:** No cap amount on funds per project, but amounts are limited by community size.
- APPLICATION DATES:** On-going.
- CONTACT:** One of seven FmHA offices in:
- Grand Rapids (218)326-0561
  - Crookston (218)281-4815
  - Alexandria (612)762-8147
  - St. Cloud (612)255-9111
  - Willmar (612)235-8690
  - Marshall (507)532-9671
  - Austin (507)437-8247, and
  - St. Paul (State Office) (612)290-3842

## FINANCIAL ASSISTANCE PROGRAMS

STATE REVOLVING FUND PROGRAM  
Minnesota Pollution Control Agency/Public Facilities Authority

- PURPOSE/DESCRIPTION:** To provide low interest loans to municipalities which need to construct new wastewater facilities or to improve existing wastewater facilities.
- The program is jointly administered by the Minnesota Pollution Control Agency (MPCA) and the Public Facilities Authority (PFA). Loans are available for planning, design, and construction of either wastewater treatment or collection projects.
- ELIGIBLE APPLICANTS:** Any municipality on the MPCA Municipal Needs List.
- ELIGIBLE PROJECTS:** To be eligible for a construction loan the project must have a MPCA approved facilities plan. Proposed projects must address a wastewater collection, transportation, or treatment need; and be technically adequate, environmentally sound, and cost effective.
- FINANCIAL ASSISTANCE:** Loans are available at below market interest rates. A municipality has up to twenty years after project completion to pay back the loan. Most costs associated with an approved project are eligible for loan funding, including administrative and engineering costs.
- CURRENT FUNDING:**
- FUNDING SOURCE:** Federal and State capitalization funds plus repayments from previous loans.
- ASSISTANCE AMOUNT:** The PFA is responsible for determining the amounts, terms and conditions of the loan.
- APPLICATION DATES:** Varies; contact the MPCA for more information.
- CONTACT:** Minnesota Pollution Control Agency  
Water Quality Division  
520 Lafayette Rd.  
St. Paul, Minnesota 55155  
612/296-7162
- Public Facilities Authority  
Department of Trade and Economic Development  
150 East Kellogg Blvd.  
St. Paul, Minnesota 55101  
612/296-5005

## FINANCIAL ASSISTANCE PROGRAMS

INDIVIDUAL ON-SITE WASTEWATER TREATMENT SYSTEM GRANTS PROGRAM  
Minnesota Pollution Control Agency/Public Facilities Authority

- PURPOSE/DESCRIPTION:** To provide funding to local units of government for financial assistance to owners of individual on-site wastewater treatment systems for upgrading or replacing their failed systems.
- ELIGIBLE APPLICANTS:** Local units of government (municipalities)  
Both municipal and individual eligibility requirements must be met. Individual systems to be corrected must be within the official boundaries of the sponsoring municipality.
- PROJECT ELIGIBILITY:** Proposed municipal projects must address all failing on-site systems within their jurisdiction OR or receive an approval to designate an alternate planning area (a contiguous area that contains less than the entire jurisdiction of a municipality).  
  
Individual systems must be failed systems, have been constructed before January 1, 1977, must not serve a seasonal residence, must not have been constructed with state or federal water pollution control funds, and must be located within the approved project area.
- FINANCIAL ASSISTANCE:** Funds can be used to cover construction, site evaluation and design costs for individual and small cluster (up to 5 connections) systems.  
  
Projects requesting placement on the funding list will be ranked by the Median Household Income of the municipality.
- CURRENT FUNDING:** Unknown (Additional funding will be requested from the legislature in 1993.)
- FUNDING SOURCE:** Public Facilities Authority (state funding)
- ASSISTANCE AMOUNT:** Up to fifty percent (50%) of construction, site evaluation and design costs per individual establishment (such as homes, small business and public buildings). Cap amounts of \$2,500 for construction of a bed or trench system; \$3,750 for a mound system, and up to \$150 for both site evaluation and system design.
- APPLICATION DATES:** Notice of application periods opening will be published in the State Register. For direct notification, contact the Minnesota Pollution Control Agency.
- CONTACT:** Victoria Cook  
Minnesota Pollution Control Agency  
Water Quality Division  
520 Lafayette Road  
St. Paul, Minnesota 55155  
(612)296-7248 or Toll Free: 1-800-657-3864



**NORTH GEORGIA REGIONAL DEVELOPMENT CENTER**

CHEROKEE FANNIN GILMER MURRAY PICKENS WHITFIELD

**ASSESSING WASTEWATER NEEDS IN NORTH GEORGIA**

**Background**

The North Georgia Regional Development Center (NGRDC) serves a six county region located in extreme north-central Georgia. This rural area is a mountainous region. A large portion of the area is contained within the Chattahoochee National Forest, which is the headwaters region for many important rivers and streams that supply water to local governments not only in the six county region but also in adjacent regions in Georgia as well as adjoining states.

Although rural, the area is growing rapidly. Between 1980 and 1990, the population grew by just over 33 percent, from 174,000 to 232,000 people. During the same period, employment in the region grew from 58,000 to 87,000 jobs (a 50% increase). Although growing, the area's per capita and household incomes still fall below that of the State in five of the six counties.

The area contains 20 municipalities with the largest having 22,000 people and the smallest containing 62 persons. Of the 20 municipalities, 7 provide public wastewater collection and treatment services. These 7 communities contain a population of approximately 39,000 persons (17 %) of the total area population.

**Water Quality Concerns/Wastewater Needs**

There are several aspects to NGRDC's concern for addressing wastewater needs and maintaining clean water in the region. The first concern deals with the threat to surface water quality resulting from development activity. As mentioned, much of the North Georgia area is mountainous containing steep slopes and fragile soils. In addition, much of the land area is contained within small watersheds, which provide water supplies for the many public water systems in the area. Development on these steep sloped areas often leads to excessive erosion and sedimentation of the many streams. Other runoff occurs from development activity and likewise contributes to a degradation of water quality in area streams. Much of this problem could be addressed through better administration and enforcement of soil erosion and sediment control and watershed protection ordinances. However, the dilemma for most local governments is that they individually do not have adequate financial resources to hire and maintain qualified staff for this purpose. The challenge is to establish cooperative, multi-

jurisdictional administrative and enforcement arrangements. However, that also requires advanced planning and coordination, and again, there is little financial resources available to local governments for that purpose.

A second problem results in a threat to the area's ground water supplies. When septic tank construction disturbs the soil down to bedrock, bacteria can pass unfiltered into bedrock openings. Once in the bedrock, bacteria can travel hundreds of feet to a well or spring. Improper septic tank installation and maintenance can make this problem worse. In some cases, septic tank effluent rises to the surface and runs off to pollute surface streams. There have been many reported cases within the region whereby tests of springs, small streams and wells have indicated that levels of fecal coliform bacteria counts are 20 times higher than the levels allowed by the state for drinking water that is to be purified by chlorination only.

As mentioned above, most of the urbanizing areas of the region do not have access to public wastewater treatment. Much of the area contains soil types, which present moderate to severe limitations in the use of individual septic tank systems. Many of the problems mentioned can be dealt with through better administration and enforcement of requirements for minimum lot size determination and groundwater protection regulations. Generally, local governments are doing better jobs now than in the past in regards to these tasks, however, it is still often difficult for small, rural governments to find adequate financial resources for maintaining qualified staff for this purpose.

The problems associated with the reliance on individual septic tank systems are magnified among systems that were installed on lot sizes much smaller than those allowed today. There are instances of complete small subdivisions having septic tank affluent creating health risks and a reduction in the quality of life for the residents. The challenge to local governments is finding the resources to retro fit these areas with either public wastewater treatment systems or other alternatives that would correct the problem. Grant resources are limited and very difficult to obtain, and often, if loans are the only source, the benefactors can not afford repayment.

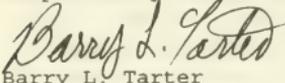
Finally, there is inadequate public wastewater collection and treatment systems capacity in the area to accommodate demand. Of the seven communities providing public wastewater treatment, three communities are either at, or rapidly approaching their capacity. Recently completed comprehensive plans in two counties indicate that there are three municipalities, which are not currently providing public wastewater treatment, but feel that due to growth and development pressures and resultant water quality problems, the need to install such systems is imminent. Of those communities having adequate wastewater treatment capacity, many are in need of installing collector trunk lines to accommodate development demands. In addition, all of the communities having old collection systems are faced with the fact that these systems are

deteriorating. As a result, there is significant infiltration of storm water, which further diminishes wastewater treatment capacity. In some cases, infiltration is so severe as to cause wastewater collection lines to overflow and spill sewage into drainage areas.

Planning is an important element to achieving success in addressing these problems. Although important, small, rural governments simply cannot assemble the resources to address all of their planning needs. The State of Georgia has recently taken the initiative to require local governments to prepare long range comprehensive plans to remain eligible for State grant programs. The State has also provided some grant resources to each Regional Development Center to be used to provide assistance to local governments in meeting the planning requirement. Generally, this initiative has proven to be successful. Infrastructure needs are being identified and long range strategies are being prepared. However, plans call for implementation. If State and Federal resources are not available to assist these communities in addressing needs, little will actually be accomplished.

The bottom line is that there is a considerable need to address wastewater and water quality needs in the six county North Georgia area. The needs range from assistance for planning and technical expertise in managing development activities to assistance with planning, design and construction of collection and treatment infrastructure. Small, rural governments have very limited resources, and because they have a small tax base, they are limited in their ability to raise tax revenues. Generally lower per capita and household incomes likewise limits their abilities to finance these infrastructure needs through user fees. Over the last several years, grant resources available through such programs as the Appalachian Regional Commission, Farmers Home Administration, Economic Development Administration, and Clean Water Act have been diminished to the point whereby the amounts available are too small to fill the financing gap that exists. Individual grants are too small or match requirements are too high to enable small, rural governments to fully address their wastewater needs. The result is that nothing gets done. Needed investments in rural wastewater infrastructure are not being made simply because neither the local communities or state and federal governments have adequate financial resources available for this purpose.

Respectfully Submitted,



Barry L. Tarter  
Executive Director, NGRDC

NORTH GEORGIA AREA



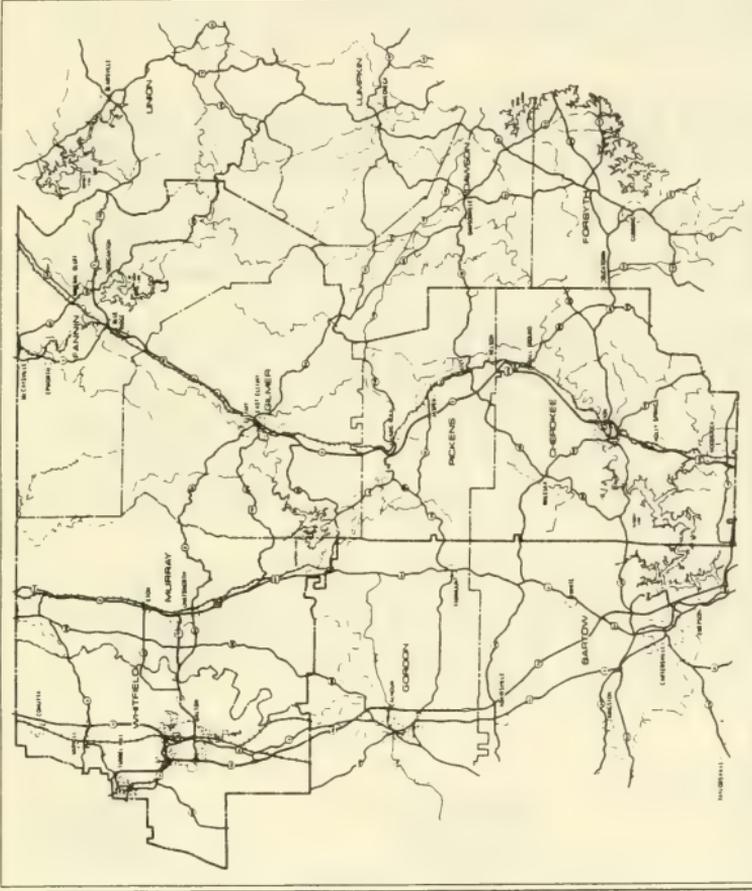
North Georgia Area

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- STATE HIGHWAY
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- LOCAL ROAD
- RAILROAD
- WATERWAY
- CITY
- COUNTY SEAT
- STATE SEAT
- COUNTY



**NORTH GEORGIA REGIONAL DEVELOPMENT CENTER**



CHEROKEE · FANNIN · GILMER · MURRAY · PICKENS · WHITFIELD

L. F. PAYNE  
5TH DISTRICT, VIRGINIA

1119 LONGWORTH BUILDING  
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ADMINISTRATIVE ASSISTANT  
JIM JOHNSON  
TOLL-FREE 1-800-535-4008

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**Congress of the United States**  
**House of Representatives**  
**Washington, DC 20515-4605**  
March 8, 1993

Honorable Douglas Applegate  
Chairman  
Subcommittee on Water Resources and Environment  
Committee on Public Works and Transportation  
B-370A Rayburn House Office Building  
Washington, DC 20515

Dear Mr. Chairman:

It is my understanding that the Water Resources and Environment Subcommittee recently held hearings on the hardships faced by small communities in complying with the Clean Water Act. I would like to share a specific example with you for the Committee's consideration.

Numerous publicly owned treatment works (POTW) and private corporations are in the process of renewing wastewater discharge permits. Many of these permits contain effluent limits that will force localities to make major capital investments in new wastewater treatment facilities.

The Henry County Public Service Authority (PSA), a POTW with approximately 15,000 customers, has been informed by the Virginia State Water Control Board that they can expect to receive a discharge permit with a copper effluent limit of .011 mg/L. An environmental engineering firm has advised the PSA that reverse osmosis will have to be utilized in order to achieve this limit, requiring an initial capital investment of \$30 million for both its treatment plants. While the State Water Control Board maintains that this permit was developed in strict accordance with EPA Guidelines, the PSA feels that the limits are unreasonable and that they do not take into account the actual assimilative capacity of the receiving waters.

According to its Executive Director, the PSA will have to triple the rates that they charge their customers if they are required to spend this amount on a new treatment facility. He fears that the increased rates for industrial users will force the closure or relocation of one of the area's largest textile mills and the PSA's largest customer. He is also concerned that the threat of these rate increases may curtail further capital investment by the textile industry in the county.

DISTRICT OFFICES:

JENNIFER MOOREFIELD, CASEWORK SUPERVISOR  
DAN DANIEL, P.O. BUILDING  
700 MAIN STREET  
DANVILLE, VA 24541-1827  
TELEPHONE: (804) 782-1280  
FAC: (804) 787-8942

MARGARET WATERS, OFFICE MANAGER  
ABBETT FEDERAL BUILDING  
103 SOUTH MAIN STREET  
FARMVILLE, VA 22801-1701  
TELEPHONE: (804) 592-8331  
FAC: (804) 592-8448

GREG KELLY, DISTRICT MANAGER  
P.O. Box 258  
HIGHTWAY 664-W  
NELLYSPOND, VA 22888-0678  
TELEPHONE: (804) 361-1958  
FAC: (804) 361-1194

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Honorable Douglas Applegate -- Page 2

Additionally, the Executive Director believes that the PSA will have to abandon its current plans to expand their service area, thereby denying water and sewage treatment to Henry County residents waiting for service, many of whom currently have substandard wells and septic tanks.

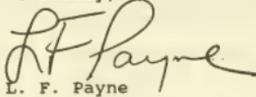
Small communities have a limited customer base, and this severely restricts their ability to spread the cost of capital investments over a large number of users. Revolving loan programs are of limited assistance, since the number of users is too small to absorb the capital cost of the project, regardless of the repayment mechanism and interest rate charged. The practical effect of the regulations is to leave many residents of rural communities unserved by a public water supply.

While protecting the environment should be one of our nation's top priorities, I am concerned that environmental cleanup in this and similar cases might be occurring at the expense of the public's health. I urge the Committee to consider ways to reduce the financial burdens being forced upon localities by these environmental regulations.

Thank you for providing me with the opportunity to comment on this important matter.

With kindest regards, I remain

Sincerely,



L. F. Payne

LFPJr:jl



**DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES**

JOE FOSS BUILDING  
523 EAST CAPITOL  
PIERRE SOUTH DAKOTA 57501-3181

February 23, 1993

The Honorable Douglas Applegate  
United States Representative  
2183 Rayburn House Office Building  
Washington, DC 20515-3518

Dear Mr. Applegate:

I am submitting this written testimony on behalf of the South Dakota Department of Environment and Natural Resources for the hearings on sewage treatment needs of rural counties and small towns. I request that it be included in the record.

Over 80% of South Dakota's communities have populations under 1,000. We have struggled to develop a program that will meet the needs of all communities and sanitary districts. I hope that this testimony will provide some insights into the difficulties and road blocks facing rural communities.

I appreciate your consideration of this testimony.

Sincerely,

A handwritten signature in dark ink, appearing to read "Robert E. Roberts".

Robert E. Roberts  
Secretary

Enclosure

TESTIMONY OF

ROBERT E. ROBERTS

SECRETARY

SOUTH DAKOTA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

ON RURAL SEWAGE TREATMENT NEEDS

SUBMITTED TO THE

WATER RESOURCES AND ENVIRONMENT SUBCOMMITTEE

PUBLIC WORKS AND TRANSPORTATION COMMITTEE

UNITED STATES HOUSE OF REPRESENTATIVES

FEBRUARY 25, 1993

I am Robert E. Roberts, Secretary, of the South Dakota Department of Environment and Natural Resources. I am submitting this written testimony in an effort to document the wastewater treatment needs of South Dakota's small towns and rural communities, to appeal for your help to extend the SRF program until the year 2000, and to request your assistance in the development of a program for communities with populations under 1,000 people.

South Dakota is a rural state with a population slightly less than 700,000. Of the 310 municipalities in the State, only two, Sioux Falls and Rapid City, have populations greater than 25,000 persons. Only 10 municipalities have populations greater than 10,000. Over 250 communities, or 82% of all the organized municipalities in the State, have populations less than 1,000 people.

As you can see, South Dakota is virtually all rural. This rural nature means significant differences between wastewater treatment needs of cities and that of rural communities. The major differences are in the method of treatment and the costs associated with that treatment. Rural communities most often face a much greater financial burden per capita to satisfy their wastewater treatment needs. Construction costs, mobilization costs, and operation costs are usually much higher on a per capita basis.

Many of the communities in the State are located on shallow aquifers or near a surficial source of water which supply their domestic water. According to the 1991 South Dakota Public Water

Supply Vulnerability Study, 35% of the communities assessed have a public water supply which is vulnerable to contamination based on the local geology. It is vital that these communities have sound wastewater treatment systems to protect their source of drinking water.

South Dakota has invested in excess of \$12 million annually since 1978 in wastewater treatment through the EPA Construction Grants and EPA State Revolving Fund (SRF) Loan programs. The demand for funds is not decreasing nor do we expect it to diminish at anytime in the near future.

Let me also note for the record that the 1992 EPA Needs Survey of wastewater needs in South Dakota documented \$104,768,000 of wastewater needs over the next 20 years, and this represents only the documented need. Our experience in the Department of Environment and Natural Resources has been that the needs of the State's rural communities are significantly higher than reflected on the Needs Survey. We know that very few rural communities have the capabilities to project their long-range infrastructure needs. A perfect example of this occurrence is the town of Harrisburg with a population of 727 people. In July of 1992 Harrisburg responded to the EPA Needs Survey indicating no projected needs (letter attached). Less than 9 months later, Harrisburg has submitted a \$700,000 State Revolving Fund loan application for wastewater treatment efforts.

While there are communities that don't know their needs, there are still others that hesitate to make their wastewater needs known for fear of enforcement actions or the seemingly hopelessness of financing the needed improvements. Generally, only those small communities having a need which they intend to address in the immediate future show up on the Needs Survey.

South Dakota has been a leader in the nation with its State Revolving Fund loan program. Not only was South Dakota one of the first states to provide SRF loan monies for the construction of a wastewater project, but it was also the first state to issue bonds for the state match required for this program. In the four years the program has been operating, 42 loans have been issued totalling \$36.4 million.

Despite the successful implementation and widespread use of the SRF program, shortcomings exist. First and foremost is the amount of money that will be available through the program once it is fully capitalized. As I indicated earlier, South Dakota anticipates needs of \$12 million annually but will have only \$4 million available if funding is not extended beyond 1994. Soon the multi-million dollar mechanical wastewater treatment facilities which were constructed in the mid-1970's and early 1980's will reach their 20-year design life. The cost for a major rehabilitation of just one such facility will exceed the annual \$4 million of SRF monies available, leaving other worthy projects unfunded.

South Dakota has not been able to commit significant funding to communities under 1,000 because of the use of bonds to generate the State match. The structure of the State's bonds has required that 75% of the borrowers be investment grade. Communities with populations under 1,000 are difficult, if not impossible, to rate as investment grade. Additionally, the cash flow requirements to meet the debt service on the bonds precludes the State from providing 0% interest loans for small communities. As a result, the SRF program is often inaccessible to the very small, rural communities. St. Lawrence, a small community in central South Dakota, is a good example. They face upgrade expenses of \$200,000 with a population of 223 people. Despite the fact that no community in South Dakota has ever defaulted on a bond issue of any nature, this is not a loan which our bond holders are rushing to embrace. This is a "no win" situation. South Dakota must protect the integrity of the SRF program in perpetuity, yet South Dakota must assist St. Lawrence in complying with the Clean Water Act.

Currently, those communities unable to access the SRF program must look to other sources of funding for wastewater projects. The most likely sources are the Community Development Block Grant (CDBG) program, Farmer's Home Administration loans, and state loans and grants. These programs do not fund solely wastewater projects, so there is competition for these funds from other areas. These programs can supplement the SRF program but are still not able to fully address the wastewater needs throughout the State.

South Dakota supports the SRF program and we encourage your continued and increased support. We also encourage your support of a funding source to be used specifically by those communities which cannot address their wastewater needs through the SRF program.

In summary, the state of South Dakota and EPA have documented wastewater infrastructure needs over the next 20 years which exceed the capabilities of available funding sources. Coupled with the undocumented wastewater needs, South Dakota rural communities need additional funding sources to supply their citizens with proper wastewater facilities and ensure the integrity of its natural resources. We respectfully request this committee continue funding of the SRF program through the year 2000. Additionally we request that this committee develop a funding program for those communities who are unable to access the SRF program. I hope that this testimony proves useful for the Committee.

## City of Harrisburg, SD

P.O. Box 26  
 Harrisburg, SD 57032  
 Phone: 743-5872

July 22, 1992

Department of Environment & Natural Resources  
 Joe Foss Building  
 523 East Capitol  
 Pierre, South Dakota 57501-3181



Subject: Wastewater 1992 Needs Survey

The City of Harrisburg does not have a five-year plan or engineering document addressing our needs for expansion of Wastewater Needs. However, listed below is our expected needs within this area within the next twenty years, and at this time do not have any projected costs or when the project might be completed.

Projected needs are; Monitoring devices, Lift Station and gravity flow sewers, additional Ponds or wet lands, sewer cleaner, and sewer expansion in all directions of Harrisburg.

Some of the needs listed above are subject to the growth of Harrisburg.

Sincerely,

*Rosan Larson*

Rosan Larson  
 Finance Officer

WRITTEN STATEMENT OF  
JOHN SANDOR, COMMISSIONER  
ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
on behalf of  
THE STATE OF ALASKA

SUBMITTED TO  
THE HOUSE PUBLIC WORKS AND TRANSPORTATION  
WATER RESOURCES AND ENVIRONMENTAL SUBCOMMITTEE

**Overview:**

The Clean Water Act has greatly assisted municipalities across the nation in meeting their wastewater treatment needs. However, with the exception of a small, underfunded set-aside grant program, the Act has ignored the sanitation needs of America's rural and indigenous Native population.

Rural Native villages account for nearly three quarters of Alaska's communities. The wastewater facilities in over 190 of these 220 villages have been assessed by the federal government as inadequate. In over half of these communities, five gallon buckets and pit privies are the sole means of sewage disposal and collection. Raw sewage lies in open pits and bunkers throughout residential sites. During seasonal flooding sewage is spread with contaminated water throughout communities. Plastic bags full of human waste accumulate in heaps on the shores of river banks and tundra ponds. Waterborne disease runs rampant.

The Environmental Protection Agency has estimated that it would cost approximately \$468 million to address the wastewater needs in Alaska villages. If drinking water needs were added, this estimate would more than double. Yet, since 1972 less than \$20 million has been made available through the Clean Water Act to help improve these critical conditions. By stark contrast, over \$60 billion has been spent through Clean Water Act programs for piped secondary treatment facilities across the nation. This discrepancy is difficult to understand. The remoteness of Alaska's rural villages may be the reason for this lack of federal awareness in the past. However, it can no longer be an excuse. The residents in rural Alaska deserve a safe drinking water supply in their homes and a sanitary means of sewage disposal just as much as any other American. Yet, while the vast majority of Americans take flush toilets for granted, residents in rural Alaska continue to contend with waterborne disease outbreaks due to third world sanitation conditions.

Alaska is committed to solving these problems and has developed a long-term comprehensive strategy for improving these conditions. It is an ambitious but realistic strategy. The State plans to commit \$25 million per year for system construction; \$1.5 million for planning, design, and management/administration; and \$1.5 million for operator and utility management training. However, in order for the plan to work, an increased federal commitment is necessary. Due to the magnitude of this problem, a State/Federal partnership is essential. The Clean Water Act is the logical vehicle for solidifying this cooperative effort.

Including the following items in the Reauthorization of the Clean Water Act would cement such a partnership: increased funding for Alaska villages under the Indian Set-Aside program; earmarking resources to expand the State's existing operator training and circuit rider programs to provide over-the-shoulder training and assistance for operators and utility managers; including drinking water projects under the Indian Set-Aside program; a State/Federal matching grant program for Alaska village sanitation projects; and increased flexibility within Clean Water Act programs so that they are adaptable to rural Alaska.

### Sanitation Conditions in Rural Alaska

It is doubtful that many Americans understand the dire sanitation conditions which the residents of rural Alaska villages are consigned to on a daily basis. These conditions are not only inferior to those found in the rest of America, they are, in many cases, on a par with third world countries.

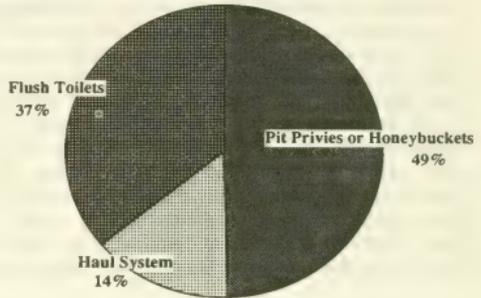
In 135 villages, honeybuckets and pit privies are the sole means of sewage collection and disposal. A honeybucket is the commonly used name for a 5 gallon bucket which is placed in a discrete area of the home and used as a toilet. Sometimes these buckets are lined with plastic trash can bags - often they are not. If a liner is used, when the bucket is filled, the bag is tied off and taken out of the home for disposal. If a liner is not used, the honeybucket itself is simply carried out of the home, its contents dumped, and it is then returned to be used as a toilet again.

In approximately 30 villages, community haul receptacles are available. In these communities, residents carry their honeybuckets to a centrally located receptacle and dump the bucket's contents into the receptacle. When the receptacle fills up, it is hooked to a trailer and carried off to an area outside of the community for final disposal. Due to uneven terrain, spillage from receptacles is frequent during hauling.

37% of Alaska's villages are reported as having flush toilets. This statistic is misleading. In many of these communities over a quarter of the households within the village are not hooked up to the system. Funding simply was not available to extend the system to all residents.

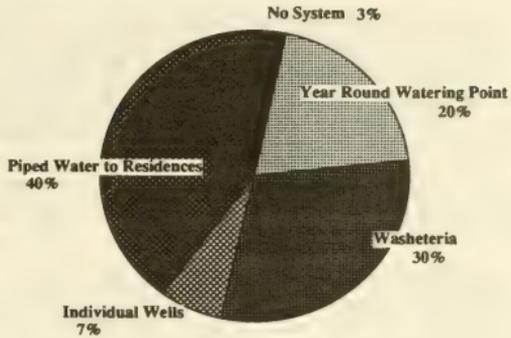
Raw sewage pitched from honeybuckets and uncovered sewage pits and bunkers filled with human waste pose an immediate threat to the health of village residents. Honeybucket wastes and honeybucket bags are dumped into ponds, creeks, rivers, or on the ground directly outside of homes. Unlined sewage pits allow liquid wastes to leach into the groundwater in villages where shallow wells provide the community's drinking water. Children play in close proximity to wastes and can easily trip and fall into sewage pits scattered throughout village sites. When spring flooding occurs, sewage from the pits is spread with contaminated water throughout residential areas.

EXISTING WASTEWATER SERVICE LEVELS IN RURAL ALASKA



Water systems in rural Alaska vary greatly in complexity and service level. In well over half of the 220 villages in the State, water must be hand hauled by residents from washeterias, watering points or from creeks or rivers. Thirty percent of the villages in rural Alaska have a washeteria. A washeteria is a centrally located building within the community where coin operated washing and drying machines are available for residents. In many, showers are also provided at a cost to the customer. Water for hauling to the home is available.

EXISTING WATER SERVICE LEVELS  
IN RURAL ALASKA



Watering points may vary from several spigots located throughout the village to a single building from which potable water is dispensed by a hose and hauled in buckets by residents to their homes.

A single trash can is typically used to store water for drinking, handwashing, and all other household needs. Water containers are frequently left uncovered and water may become contaminated when water is dipped for use. For instance, people may dip water for handwashing immediately after hauling honeybuckets. Once a water container is contaminated, it remains contaminated and disease results.

The following statistics further highlight the magnitude of the sanitation problems in rural Alaska:

- Ninety-two percent of the sewerage systems in Alaska villages have been assessed by the federal government as inadequate;
- According to a 1990 Report to Congress on "Indian Wastewater Needs" written by the Environmental Protection Agency, Alaska not only has the highest concentration of Native sewage treatment needs in the nation, it accounts for seventy-four percent of the nation's Native wastewater needs;
- State and federal agencies have estimated that \$1.2 to \$1.3 billion is needed to address the water and sewer problems in rural Alaska.

### **Why the Construction Grants and State Revolving Fund programs have not helped Native Villages in Rural Alaska:**

To date the Clean Water Act has provided two major programs for financing publicly owned wastewater treatment facilities - the Construction Grants Program and the State Revolving fund program. The design of these programs has resulted in an enormous inequity. The Construction Grants program was developed with an eye toward large scale projects in highly populated municipalities and the State Revolving Fund program is designed for cities with the population and economic base to repay a loan. Because they lack a sizable population with a healthy income and a large local government infrastructure, the pressing sanitation needs of small, poorer communities such as Alaska Native villages have been neglected by the Clean Water Act.

A multitude of requirements and regulations made it impossible for villages to take part in the Construction Grant program. Applicants had to sign an assurance certification that they had the legal, institutional, and managerial capability to ensure adequate construction, operation and maintenance of a Construction project. The administrative paperwork alone on a Construction Grant project in Alaska's handful of larger communities has never been less than five file folders which were five inches thick each. Without this minimum of a 25 inch paper trail, the project would fail an EPA audit. In most villages, local government staffing consists of a clerk, a part-time mayor, a council, a health aid, and a village police officer. There is no public works department. The administrative, managerial and institutional levels required to undertake a project under this program simply were not available in rural Alaska villages. Nor did the requirements of this program lend themselves to a non-piped system in a small village.

In 1987, Congress decided to phase out the Construction Grants program and phase in the State Revolving Fund (SRF) programs. SRFs are loan specific and designed for communities with the economic and population base to repay a loan. Alaska rural villages do not have this capability. Most villages have a population of 350 or less. Unemployment is high. Nearly sixty percent of the rural village workforce is classified as "discouraged" meaning they have given up on seeking employment. Which is understandable - there are few cash jobs in these communities because there are typically no employers. The few jobs that are available are typically seasonal in nature - such as fishing and fire fighting. According to the 1990 census, the median household income in 82 of Alaska's 220 Native villages is less than one-half of the national average median household income of \$35,225. In several villages, median household income is less than \$10,000. To further compound the problem, the cost of living in rural Alaska is extreme since there are no roads and all consumer goods must be flown or barged into the community. Almost all village residents depend in part on subsistence hunting and fishing.

Alaska Native villages do not have the financial capability to repay a loan no matter how low the interest rate or how long the amortization period.

### **The Indian Set-Aside program In Rural Alaska:**

For the last five years, EPA has administered a single program which has assisted in improving sanitation conditions in Alaska Native Villages and Indian reservations - the Indian Set-Aside program. Unfortunately, the program is severely underfunded. Only one-half of one percent of all funds appropriated to the State Revolving Loan program were set-aside for this program. In other words, for every \$1 million in funding for SRFs, \$500 was set-aside for urgently needed projects on reservations and in villages.

Throughout the Set-Aside programs six year history, a little over \$46 million was made available for Alaska Native Village and Indian Tribe projects. Competition for grants was so steep that the Environmental Protection Agency quit accepting priority list applications after the program's second funding cycle. In the two short periods during which the agency accepted applications, it received over 194 requests from Alaska Native Villages and Indian Tribes across the nation. Less than twenty percent of the projects on the aged priority list were funded.

Although extremely competitive and severely underfunded, the Indian Set-Aside program has been a success in rural Alaska. When developing the program, staff from EPA took the time to learn how the Indian Health Service (IHS) and the Alaska Department of Environmental Conservation (ADEC) administer sanitation programs in rural Alaska. Over the course of a year, they worked with ADEC staff to find the best methods for implementing the new program in Alaska. They made on-site visits to villages to learn how ADEC and IHS work with rural communities. They worked with ADEC staff to develop a set of procedures adaptable to rural Alaska. As a result, they designed a program which has been proven to work in Alaska Native Villages.

Once grants were awarded through the Environmental Protection Agency, project management and administrative assistance was offered through ADEC or the IHS. Village residents were hired to do actual construction work thereby helping the local economy and nurturing a pride of ownership in the project by residents.

Although it was effective in helping several villages, the set-aside program barely scratched the surface of the sanitation improvements needed in rural Alaska. Since the program originated in 1987, approximately \$18.3 million has been granted to Alaska Native Villages. That averages out to a little over \$3 million per year. In a 1990 Report to Congress, EPA estimated that wastewater needs in Alaska Native Villages totalled \$468 million. Therefore, if the program was to be continued at the same annual funding rates and Alaska Villages continued to compete as well for funding as they had in the past, it would take over one hundred and fifty years for the Set-aside program to address the wastewater needs of Alaska Native Villages.

### The Alaska Rural Sanitation Strategy:

As the nation faces the twenty-first century, the basic sanitation needs in rural Alaska have yet to be addressed. This situation is breeding a health, safety, and environmental crisis in Alaska Native Villages. Waterborne diseases such as Meningitis and Hepatitis A occur at an alarming rate. Hepatitis A is considered endemic in many villages and has been a contributing factor in two deaths this year. Dysentery is so common it is rarely reported. Because the population in these rural communities is projected to double in the next twenty years, the need to bring about improvements to existing sanitation conditions is even more urgent.

With this in mind, the Alaska Sanitation Task Force was formed a year ago. This forty-five member team, with broad public and private sector representation, worked for over six months developing a long term comprehensive plan for tackling this severe problem. Thanks to the time and efforts of these professionals, Alaska now has a Rural Sanitation Strategy.

There are seven underlying principals to the Alaska Rural Sanitation Strategy developed by the task force. These are:

- There are no quick fix solutions. This is a 10-20 year strategy.
- A coordinated, comprehensive, multi-disciplinary approach is essential.
- Technology and capital funding alone will not address the problem. Competent operators, adequate user fees, environmental health education and the support of a well managed community government are equally vital.
- Facilities must meet the unique demographic, economic, and climatic conditions of each village. Alternatives to complex and expensive piped systems will be necessary in many areas.
- Addressing the sanitation problems in rural Alaska will require a joint federal, State, and local partnership with an increased commitment by all involved.
- A single influx of a large sum of federal or State capital funding could be counter productive. Increased funding levels are needed but should be made at reasonable rates and only to communities that will be able to manage completed facilities.
- Community planning, operator and utility management training and assistance must keep pace with capital expenditures.

### **A Federal/State partnership is essential.**

The State of Alaska is committed to implementing the Rural Sanitation Strategy. However, due to the magnitude of the problem, we can not do it alone. A Federal/State partnership is essential. The Clean Water Act is the logical vehicle for solidifying this partnership.

Including the following items in the Reauthorization of the Clean Water Act would allow the Environmental Protection Agency to become a full partner with the State of Alaska in improving the sanitation conditions in rural Alaska:

- **Increase Funding for the Indian Set-Aside program or establish a separate State/federal matching grant program.**

Although severely underfunded, the Indian Set-Aside program has provided some truly needy areas with sewage facilities. Grant funds awarded under the set-aside have provided a small but significant step towards meeting the sanitation needs of Alaska Native Villages. But much remains to be done and far more funding is needed. Funding should continue to be awarded based on health and environmental criteria. Political and regional equity considerations should not override priority needs in determining grant distribution. The programs goal should remain to address the nation's Native populations most pressing sanitation needs regardless of regional location.

Alternatively, a separate State/federal matching grant program could be established within the Clean Water Act specifically for implementing a State/federal rural Alaska sanitation strategy.

- **Project eligibility should be expanded to include water projects.**

Many rural Alaska villages lack adequate water storage in residential housing to support a wastewater facility. Additionally, it is much less expensive to plan, design and construct water and sewer projects at the same time - especially in remote areas of Alaska. Including water projects as grant eligible would expand the wastewater alternatives which could be considered for set-aside projects and would save money.

- **Earmark resources to expand the State's operator training and circuit rider programs to provide over-the-shoulder training and assistance for operators and utility managers.**

Without trained operators and utility managers, sanitation systems would be placed in jeopardy. It is essential that any funds allocated for capital construction costs carry a minimum set-aside of 4% for utility operation and management training and assistance. The State has programs in place to address these needs, but they need to be expanded.

Although village water and sewer systems are typically smaller and less complex than those found in larger communities, skilled operators and utility managers are just as important to their continued success.

- **Provide increased flexibility with Clean Water Act programs so that they are adaptable to rural Alaska.**

During the last twenty years over \$60 billion has been made available through the Clean Water Act to assist municipalities across the nation meet their wastewater treatment needs. By contrast, less than \$20 million has been allocated for improving the sanitation needs in rural Alaska. For the most part, this was because traditional Clean Water Act programs were not designed with rural Alaska villages in mind. They lacked the flexibility to meet the unique demographic, economic, and climatic conditions of Alaska's 220 Native villages. Examples of areas where increased flexibility would assist the State include: (1) Allowing the States to determine whether to use part of its capitalization grants as Indian Set-Aside grants to fund water and sewer projects; (2) Ensuring that any national operator and utility management training effort is delegated to the State for implementation. The training needs in Alaska are too unique for "canned" training. The State has training programs in place that have been tailored to meet Alaska needs - additional funding for these programs is greatly needed, however.

The State of Alaska is prepared to enter into a long-term partnership arrangement with Federal agencies to deal with the serious water and sanitation problems in Alaska's Native villages. With this partnership effort, substantial progress can be achieved in developing and operating these facilities in arctic and subarctic conditions.

# REAUTHORIZATION OF THE FEDERAL WATER POLLUTION CONTROL ACT

WEDNESDAY, MARCH 31, 1993

HOUSE OF REPRESENTATIVES, SUBCOMMITTEE ON WATER  
RESOURCES AND ENVIRONMENT, COMMITTEE ON PUBLIC  
WORKS AND TRANSPORTATION,

*Washington, DC.*

The subcommittee met, pursuant to recess, at 9:38 a.m. in room 2167, Rayburn House Office Building, Hon. Douglas Applegate (chairman of the subcommittee) presiding.

Mr. APPLEGATE. The Subcommittee on Water Resources and Environment continues its hearings on issues relating to the reauthorization of the Clean Water Act.

In February, we received testimony concerning sewage treatment needs and the associated funding needs of rural and small communities. It was clear from that testimony that the small and rural communities have and will continue to have needs which are not being adequately addressed by existing programs. The per capita resources of small and rural communities are often inadequate to meet the higher per capita costs which often accompany sewage treatment projects in such communities.

I'm confident that Federal financial assistance programs can be altered to accommodate these pressing needs. Beginning today, we will receive testimony for seven days on additional issues concerning the reauthorization of the Clean Water Act. Today and tomorrow, we will receive testimony on issues of concern to State and local governments involved in the implementation of the Clean Water Act. We will continue to hear about unmet financial needs as well as the burdens and responsibilities placed on State and local governments to achieve the water quality required by the Clean Water Act.

Our hearings will resume following the Easter district work period at which time we will hear from various representatives of industry, real estate development, agriculture, environmental advocates, academia and members of Congress. Finally, we will conclude our hearings on May 5 with testimony from EPA Administrator Carol Browner on the Clean Water Act reauthorization generally and also from a representative of the Department of the Army on wetlands protection and the Tennessee Valley Authority on a watershed approach to achieving clean water.

I look forward to the participation of all of our subcommittee members in this very, very complex and important process.

Before we start out with our witnesses, I want to recognize my very distinguished colleague, the ranking Republican member of the subcommittee, Mr. Boehlert of New York.

Mr. BOEHLERT. Thank you very much, Mr. Chairman.

I want to welcome all of you here to the first in a series of comprehensive hearings our subcommittee will be having on the reauthorization of the Clean Water Act. These hearings will set the tone and structure for debate on what I believe to be one of the most important pieces of legislation to be considered by this committee and indeed, this Congress.

The quality of our Nation's waters and the competitiveness of America's industry will be directly linked to our efforts in reauthorizing the Clean Water Act. We must learn from our competitors in the global marketplace, investment in water infrastructure creates jobs in the short time and improves competitiveness in the long-term.

Since 1972, America has made great strides towards the goal of swimmable and fishable waters. During the last two decades, we have invested over \$60 billion in the construction of wastewater treatment facilities. However, the time has come to adjust our clean water policies to the realities of the 1990s. EPA estimates that pollutants from nonpoint sources now constitute over 50 percent of our water quality problems. Data also indicate that the majority of new wastewater treatment construction projects are needed in small, rural communities. Our policies should reflect these facts.

We must pursue a more holistic approach to water quality management and regulation. As the New York City Watershed has shown us, we all live downstream. The wastewater treatment and land use policies of 10,000 people who reside in the district I am privileged to represent are critical to the drinking water needs for 10 million people living in New York City.

The challenges before us are somewhat daunting. The most recent EPA needs survey places the cost of America's near-term wastewater treatment needs in the neighborhood of \$80 billion. The issue of wetlands, combined sewer overflows and nonpoint source pollution have no quick or simple solutions.

To meet these challenges in fiscally austere times, innovative methods of clean water protection, regulation and financing must be pursued. Today's witnesses should shed important light on the direction America's clean water policies need to take.

I look forward to these hearings, Mr. Chairman.

Thank you.

Mr. APPELATE. Thank you very much, Mr. Boehlert.

We're very honored, of course, as always to have the very distinguished Republican ranking member of the full committee, Mr. Bud Shuster of Pennsylvania.

Mr. SHUSTER. Thank you very much, Mr. Chairman.

I believe that these hearings are the beginning of what could well be the most important legislation that this committee writes in this Congress. So I'm looking forward to all working together on this very important legislation.

Our goal is not to completely rewrite and overhaul the Clean Water Act, but rather to improve the various aspects of it and face

the challenges that are confronting this Nation's environmental infrastructure.

Finally, I believe our goal should be and indeed is, to not only create a cleaner environment but also a stronger economy. I think it's enormously important that we're sensitive to the economic implications of the environmental decisions that we make so that we achieve not only cleaner water but more jobs for Americans in the process.

Thank you very much.

Mr. APPLEGATE. Thank you very much, Mr. Shuster.

I have received prepared statements from our colleagues, Ms. Norton of the District of Columbia, and Mr. Zeliff of New Hampshire. These statements will be placed in the record at this point.

[Statements referred to follow:]

STATEMENT OF HON. ELEANOR HOLMES NORTON

Mr. Chairman, I am pleased to join my colleagues today to consider the reauthorization of the Federal Water Pollution Control Act. Today marks the continuation of hearings on one of the most important environmental issues which will come before the 103d Congress.

It is with pleasure that I welcome witnesses from the National Governors Association, Water Quality 2000, Coastal States Organization, and others who are interested in sharing their views in order to promote national policies and goals for the 21st century that will protect and enhance the water quality of our nation.

I am looking forward to hearing from today's witnesses and I welcome them all.

STATEMENT OF HON. WILLIAM H. ZELIFF, JR.

Mr. Chairman, I want to thank you for calling this hearing today as we continue the reauthorization process of the Clean Water Act.

The reauthorization of the Clean Water Act Probably represents the most important piece of legislation that this subcommittee, and the full committee, will consider during the 103d Congress.

The problems and challenges associated with the Clean Water Act have extremely important environmental consequences, and the manner in which we address these challenges will impact this country for years to come. But the Clean Water Act has a very real economic dimension as well, and I am eager to hear the testimony today from the State and local perspective on this pressing issue.

Since 1972 the Federal Government has provided over \$60 billion in grants to municipalities for sewage treatment, and this, coupled with the permit requirements and regulations provided in the Act, has generally succeeded in improving the water quality of our rivers, lakes, and streams.

However, we continue to hear estimates that as much as \$100 billion or more over the next several years will be needed to meet the sewage treatment needs of communities around the country.

We also have other challenges to address, such as the expensive problem of combined sewer overflows, a major problem in one of the cities in my district, Manchester, NH. Other obstacles to overcome include the problem of nonpoint source pollution, as well as the controversy surrounding the issue of wetlands protection.

Mr. Chairman, I am eager and willing to work with you and the other members of this subcommittee to solve these and many of the other problems surrounding the debate over clean water, and I look forward to hearing what will no doubt be very valuable testimony presented today.

Thank you, Mr. Chairman.

Mr. APPLEGATE. We will call to the witness table the four witnesses and have them come to the table as a panel, which would include: first, the National Governors' Association, the Association of State and Interstate Water Pollution Control Administrators; Council of Infrastructure Financing Authorities, and Coastal States

Organization. We will have one additional panel after this which will be the Water Quality 2000. We will hear from them later.

I believe we will begin with Mr. Hemmer.

**TESTIMONY OF DENNIS HEMMER, COMMITTEE ON NATURAL RESOURCES, NATIONAL GOVERNORS' ASSOCIATION; ROBERTA SAVAGE, EXECUTIVE DIRECTOR, ASSOCIATION OF STATE AND INTERSTATE WATER POLLUTION CONTROL ADMINISTRATORS; TERRY AGRISS, PRESIDENT, NEW YORK STATE'S ENVIRONMENTAL FACILITIES CORPORATION, AND PRESIDENT, COUNCIL OF INFRASTRUCTURE FINANCING AUTHORITIES; AND DAVID C. SLADE, DIRECTOR, COASTAL STATES ORGANIZATION**

Mr. HEMMER. Good morning, Chairman Applegate and members of the subcommittee.

I am Dennis Hemmer, Director of the Wyoming Department of Environmental Quality. I'm here today on behalf of both the National Governors' Association and the State of Wyoming.

The National Governors' Association has adopted extensive policy on the Clean Water Act. In light of the limited time, I will discuss only the priority recommendations concerning State revolving funds, non-point source pollution control, stormwater and wetlands protection. However, I have attached a copy of the complete NGA Water Resources Policy to my testimony and request that it be included in the hearing record.

The challenge that you have before you in reauthorizing the Clean Water Act is to craft a law that addresses the problems of the Nation while allowing the flexibility for each State to address its specific concerns. Before I discuss the Governors' recommendations, I want to make a general plea for attention to State resource constraints and allowance for flexibility to use our limited resources in the most cost effective manner.

I represent the least populous State in the Nation. While we share many of the problems of other States, we have also been spared many of their problems. Today, Wyoming, like most States—and indeed, this Nation—is struggling to find the resources to support essential programs. As you've no doubt heard repeatedly, we do not need more unfunded mandates.

We do need to focus on areas that pose the greatest risk to the public health and environment. Allow States to target priority concerns and don't require States to expend resources where they are not needed.

I'll start with the State revolving fund. The Governors' recommendation concerning funding is perhaps the most important element of the NGA position. Continued progress toward meeting the goals of the Clean Water Act depends on adequate funding for the water programs. The current funding levels are clearly inadequate in face of the projected needs.

The Governors adopted a policy in February recommending increased funding to \$5 billion per year through the year 2000 in Federal capitalization grants to the State revolving loan funds. The Governors have recently communicated to the President and the Appropriations Committee that in no case should appropriations fall under \$2 billion for wastewater and \$1 billion for drinking

water. I have attached a copy of the NGA letter as ask that you include it in the hearing record.

Note that \$5 billion per year was the sum originally authorized and appropriated for wastewater treatment infrastructure under the Clean Water Act of 1972 prior to the introduction of costly new mandates imposed on States by the 1987 Clean Water Act amendments.

Considering the effects of inflation, the annual Federal commitment has been reduced by more than half over the last 20 years. At the same time, the program is much more expensive than it was 20 years ago. The Governors support continued use of the State revolving loan funds as a primary source of wastewater infrastructure financing. NGA opposes financing through direct Federal construction grants.

The SRF Program is an excellent example of efficient government investment. SRF provides sustainable, long-term funding and has a rapid payout rate. Through bonding, you can leverage the money even further.

While recommending the SRF as the primary source of wastewater infrastructure, the Governors recognize the special problems of small communities and that the low interest loans currently available through the SRFs do not provide adequate assistance to some small communities. However, the Governors believe that small communities should be addressed through special allowances in the SRF program rather than through a separate grant program.

NGS recommends four provisions to facilitate small community participation in the SRF Program: special assistance through principal subsidy programs in which States use SRF interest earnings to subsidize small community projects; 40-year loan repayment periods; inclusion of expenses associated with the purchase of land, easements and right-of-ways as eligible expenses; allowance for the use of SRF administration funds for technical assistance to small communities.

I've read recently of the debates over whether the State revolving loans or funds for safe drinking water should be included in the current SRF or established as a separate fund. While the Governors have not taken a position on this issue, on behalf of the State of Wyoming, I urge you to combine the two. While I recognize the difficulty of combining funds addressing two separate acts, each State needs the flexibility to address its own specific problems. In Wyoming, we have addressed our wastewater needs for the future. However, we have drinking water needs projected to cost as much as \$250 million.

I urge you to overcome jurisdictional difficulties and to ignore protectionists cries from individual programs and take a comprehensive approach that delivers the most needed services to our citizens.

Reducing nonpoint source pollution control demands, in essence, a societal change. Nonpoint source pollution is cumulative and difficult to quantify. A successful nonpoint source program is a pollution prevention program that must involve convincing the public to change the ways of doing things that may date back generations.

Therefore, the program must be more educational than prescriptive.

A major part of nonpoint control revolves around managing land uses. Land use decisions must account for local, geographic and demographic situations. The problems we are trying to address in the plains of Wyoming are necessarily different from those in more populous areas. The Governors stress that States must retain the flexibility to tailor nonpoint management measures to local conditions and oppose prescriptive Federal definitions of specific management measures.

The Governors believe the current reauthorization should build on the existing 319 Program and offer suggestions concerning funding, achieving management goals, and consistency of Federal activities with State management plans.

First, insufficient funding is really a critical problem facing State programs. Since 1987, only \$190 million has been made available to support the Section 319 Program. To put this into perspective, consider, for example, the joint EPA-USA Rural Clean Water Project. This demonstration project spent \$70 million to treat only 21 local watersheds. Although no one knows the extent of the Nation's nonpoint source pollution problem, there are probably thousands of watersheds requiring similar levels of treatment.

Program funding must be stable as many projects will involve multiyear efforts. The States and project participants must be able to depend on a consistent level of funding. We have too many examples in Wyoming of good projects that failed because they weren't carried to fruition due to lack of funding. Worse yet, we have too many individuals and groups that become jaded because they were involved in a project that wasn't completed.

Second, the program needs more structure. Note that I say structure, not proscription. Currently the guidance in the Nonpoint Source Program is extremely vague. Other than informing us that we are supposed to prevent nonpoint source pollution, the guidance is of little help in achieving our goals.

NGA policy recommends development of a framework involving more clearly articulated management goals, a process to define progress and some mechanism to rework plans that do not meet expressed goals. States should establish more clearly defined goals for NPS plans based on either measure of water quality or measures of program administration such as number of best management practices in place. States should identify benchmarks to measure progress towards meeting specified goals.

If State programs do not produce results, States should be required to adjust Section 319 plans. States need help from EPA in defining a clear direction for the program. EPA should assist the States in defining goals and measuring progress. However, I emphasize that EPA should not mandate the use of specific best management practices. BMPs must be tailored to local conditions. In many instances, they will, in large part, be a compilation of practices already developed by Federal, State and local agencies.

Finally, the Governors recommend a certification process to ensure that Federal activities are consistent with State NPS plans. Appropriate Federal agencies should have input into the develop-

ment of the BMPs and should be required to implement them as part of their land use planning.

With regard to stormwater, the Governors agree that reducing stormwater contamination is important in achieving the fishable, swimmable goal of the Clean Water Act. The Governors stress, however, the law must recognize the differences between stormwater and typical point source pollution, and the difficulty in using the NPS Program in addressing stormwater.

Although it is discharged at discrete outfills, stormwater is really nonpoint pollution. The regulation of point source discharge is based on known flows, processes, plant performances and technologies not available for stormwater.

The Governors believe the Clean Water Act should clearly authorize the use of site specific, best management practices to control stormwater. Because stormwater is generated from a variety of sources and activities, BMPs are the most effective controls.

The Governors also believe the Clean Water Act should allow States authority to use enforceable nonpermit approaches to control stormwater. The magnitude of the burden that stormwater permitting programs can have on a State cannot be overstated. In Wyoming, we calculated that issuing individual NPDS permits to all stormwater sources would multiply the number of permits we issued tenfold. We would need ten times as many staff and the additional funding that goes along with it. Using general permits and BMPs, we were able to do it with existing staff. The Governors believe that States must have the authority prioritize stormwater controls based on risk.

Finally, NGA recommends a three-year extension of the municipal stormwater compliance deadline.

With regard to wetlands, wetlands in their natural state serve important ecological and socioeconomic functions that are difficult to replace. Development of a workable national policy to promote conservation and wise management of these resources is of great concern to the Governors.

NGA policy suggests that the national policy should reflect several important principles. Today, I would like to draw attention to six of those principles.

First, the Governors believe that land use regulations such as wetlands programs are effectively administered at the State and local level and that the Wetlands Regulatory Program should facilitate State involvement through the full State assumption or State program and general permits. The Governors suggest several measures to encourage States to assume the programs. They believe that options could be partial assumption that we could negotiate with the Government for appropriate pieces that would fit our State and the Federal Government should establish clear goals for the protection of the wetlands and design the programs accordingly.

The Governors also support an amendment to the Clean Water Act to clearly authorize the use of Corps of Engineers-issued State Program General Permits that substitute State program authority for the Federal Program. State Program General Permits are an alternative method for States to assume partial responsibility for wetlands regulation.

Second, wetlands regulatory programs must recognize regional variance in wetlands. The nature of the wetland resource and of land use varies dramatically in different parts of the country and management policies should be tailored to these variations.

Third, the Governors believe the definition of wetlands and delineation criteria that are scientifically valid, legally defensible, and workable in the field is a foundation of a practicable protection and management program.

Fourth, the Governors assert that regulatory practices should include a sequential approach to mitigation that begins with avoidance of adverse effects on wetlands and minimization of unavoidable adverse effects and lousy use of compensatory mitigation as a last result.

At the same time, however, the policy must allow regulators the flexibility to act rationally weighing socioeconomic factors.

Federal programs should involve a substantial research component targeted in particular toward developing improved methods creating and restoring wetlands and accurate methods of assessing wetland functions and values. We need better science on these important questions.

Sixth, the regulatory program should be complemented with a nonregulatory program. The Governors emphasize the value of wetlands, restoration and creation through cooperative initiatives between Government and the private sector. The North American Waterfowl Management Plan administered by the Fish and Wildlife Service and wetlands conservation provisions of the 1994 Food Securities Act are successful examples of such initiatives.

In addition, NGA policy addresses some specific management issues, including wetland classification, mitigation banking, regulation of managed wetlands and compensation of private propertyowners. NGA opposes the imposition of a National Classification System, but classification systems tailored to individual watersheds could be useful in developing regional and local resource management plans.

The Governors believe in mitigation banking as a useful tool, given careful management. In Wyoming, we have approached wetland banking and we believe we have the technical expertise and the resources to administer such a program. However, at this point, our efforts have been frustrated by a lack of coordinated, consistent Federal policy. Federal policy on banking could allow infrastructure improvements to proceed while providing effective and efficient wetlands mitigation.

NGA policy states that wetlands created and maintained solely for the use in resource management—for example, stormwater abatement or water fowl production—should be exempt from regulation under Section 404.

Finally, the Governors oppose mandatory compensation of propertyowners for wetlands regulation. This issue is appropriately addressed in the courts which have established sound criteria for determining when a regulatory taking has occurred.

This concludes my written testimony. Mr. Chairman and members of the subcommittee, thank you for the opportunity to testify today. I'd be happy to answer any questions.

Mr. APPLGATE. Thank you very much for your testimony.

I want to depart at this moment from going through the witnesses because we are all so privileged to have with us the Chairman of the full committee, Norman Mineta of California. I will yield to him at this point.

The CHAIR. Thank you very much, Mr. Chairman.

I appreciate this chance to interrupt the proceedings at this point.

First of all, I'd like to thank you, Mr. Chairman, and Mr. Boehlert, for your continuing leadership in holding this series of hearings dedicated to the reauthorization of the Federal Water Pollution Control Act, better known as the Clean Water Act.

Without a doubt, the reauthorization of the Clean Water Act is a task that Congress has not only performed three times since 1972, but in this Congress, really becomes the most important piece of legislation that the Public Works and Transportation Committee will be handling, and the stakes are very, very high.

One essential challenge before this Committee is to reverse the idea now in law that fiscal year 1994 is to be the last year of Federal participation in addressing the national problems of wastewater treatment.

Another essential challenge is to refocus clean water policy so that it does not focus on one polluter or a few polluters, but on what can be done most cost effectively to reduce pollution on a watershed basis. We have had the help of a number of wonderful groups represented by many of those in this room in establishing our past water policy. You have seen how past law has worked and we expect that you will help us during these hearings to improve where we want to go in order to make this a workable piece of legislation.

Again, I want to thank all the witnesses who will be before the Committee, and Robbi, it's good to see you.

Ms. SAVAGE. It's good to see you, Mr. Mineta.

The CHAIR. We've had a long relationship here through your expertise and my local government experience.

Again, I appreciate all of you being here and helping us to understand where we ought to be going in the future.

Thank you, again, Mr. Applegate and to Mr. Boehlert as well, for your leadership.

Mr. APPLGATE. Thank you very much, Chairman Mineta. We appreciate your being here. We appreciate your words and we know that you'll be in there in full support of the directions that we have to take in order to accomplish our goals. That will be extremely important as we move along the process.

I would like to mention to the witnesses, we would like to keep this as short as possible and if we could keep it down to 5 minutes, I would appreciate that because we want to leave adequate time for the committee to be able to toss out some questions to you.

At this point, let's have Robbi Savage.

Ms. SAVAGE. Thank you very much, Mr. Chairman. Thank you, Mr. Boehlert for being here, and of course, Mr. Mineta, thank you very much, not only for being here for the hearing but also for the work that you've done on the stimulus package. To go to the President and ask for money for this program, I know, is something you feel very strongly about. We wish there had been more in the Presi-

dents' Request but I certainly thank you for all that you did to make sure our clean water program was incorporated in the President's package.

Mr. Shuster, thank you very much for being here. I appreciate it.

The CHAIR. Very importantly, if I might interrupt, part of that was the 20 percent waiver.

Ms. SAVAGE. Thank you so much for that. We really appreciate it very much.

As indicated, my name is Robbi Savage. I'm the Executive Director and Secretary-Treasurer of the Association of State and Interstate Water Pollution Control Administrators, otherwise known as the State guys.

Our association was created in 1961 as the professional forum of State Administrators of the Clean Water Program. My office was established in January of 1979. Fortunately for me, at least, at this point, I am the first and only Director of the Association.

The Clean Water Act, we believe, is fundamentally sound and I think, for the most part, we share that philosophy with the members of the committee. We've worked long and hard since 1972 to put a framework into place that is effective and we feel fairly comfortable that we're moving in the right direction, and that the waters, in fact, are becoming cleaner as we speak.

Our association is putting together a 20-year status and trends analysis that we will have before this committee in early May to let you know just what has been accomplished in the 50 States with the money and the guidance that you've provided. We're very enthusiastic that the 50 States have participated.

There are a number of issues, however that we do need to look at as we evaluate our clean water program and ways to make our law even more effective than it currently is. Of course you wouldn't expect me to come before you without talking about two very important things on behalf of the States and that, of course, is money and State flexibility, so I won't let you down.

We have also shared our views on this issue with the President in a letter that I've provided for the committee to talk about the opportunities under the stimulus package for flexibility, the elimination of the State match, and so on, and of course, adequate funding for this program.

We have also had, Mr. Chairman, significant delays in the issuance of guidance. When, in fact, members of this committee and the Congress pass laws and have them out for the States, we need the Federal agencies to act swiftly to get that guidance and those regulations out to the States. Ultimately, State and local governments are held accountable for meeting the Act's requirements and the deadlines, and yet if we don't get the kind of leadership from the Federal agencies that we need to do the job, especially in the time frames necessary, it makes it very, very difficult for us.

Again, we do need adequate time to carry out the requirements of the 1987 amendments. Many of you were involved in the development of that statutory language and we are just beginning to see the fruits of that labor. Most of you also know that the major requirements for toxics, nonpoint, stormwater and so on did not receive funding through the Clean Water Act, so that's an area where

the States have had to tread very lightly without the assistance of funding.

To add to these concerns, ASIWPCA would call on the House to reinforce that States must continue to have the lead role in development and management of the Clean Water Program. New Federal mandates must be accompanied by increased State flexibility in funding.

The Governors, as Dennis said, have taken a fairly strong position that new mandates coming from the Congress, not only on environment, but on any legislative mandate, must be accompanied by appropriate funding. States are just not in a position to take on new responsibility absent funding.

We need to define what the continuing Federal role is, not only in the State Revolving Loan Fund, but in our other programs.

Following up on Mr. Applegate's suggestion that we be swift in our discussions, you have our testimony and our positions that were developed by the 50 States, so I'd just like to touch on seven points and I'll be very brief in them.

State management of the national program under Section 106 is something, of course, very near and dear to our heart. It's not very much money. When you look at \$70 or \$80 million and you divide that by 50 States and interstate commissions, it can be less than \$1 million for a State to do their work. On the other hand, what you ask the States to do with that money is to issue permits, to monitor, to enforce, to manage their sludge programs, to do pretreatment, and on and on—toxics, stormwater and whatnot. A million dollars doesn't go very far in a State with those kinds of mandates.

We'd like for you to really evaluate what you're asking the States to do and see if in fact the commensurate funding is made available which, of course, we believe that it is not.

As regards the State Revolving Loan Fund, Mr. Mineta and Mr. Roe, who is always smiling up at us now from the top of the rafters here, were very, very instrumental in the development of the State Revolving Loan Fund. In the early days, we did talk about the potential to have some kind of setaside for small and hardship communities. So if you go back, and I know Errol, Gabe and the staff have done this, to some of the original language you will see that we did have a small grants program for hardship communities that we might want to follow at this point.

We do, as an association of the 50 States and as the Governors, oppose the reinstatement of the Construction Grants Program. The reason for this is that all 50 States now have incorporated the State revolving loan fund as a part of their program. It's working, it's providing the necessary funding, and we're very concerned that if we reestablish a grants program, any sane human being would wait for a grant instead of proceeding with a loan. We think the result of that would be that we'll have delayed compliance and that we will have an undermining of the State Revolving Loan Fund that we've all worked so hard to put into place.

We also want to ask that you eliminate the crosscutters. There are some 28 separate Federal statutes that apply under the State Revolving Loan Fund, for example, historic preservation and on and on. There are all these extemporaneous laws that have social

goals attached to them, but when you're trying to build sewage treatment plants and clean up the water, it's very difficult for a small community to administer.

There are also a number of Title II requirements that are hold-overs from the Grants Program. Those would be the 20 percent set aside that Mr. Mineta indicated. Governors are limited to spending only 20 percent of their funds on such things as nonpoint source, wetlands, watersheds and so on. We would like to see you lift that.

Also, the requirements for innovative and alternative technologies. We are pushing the envelope on this issue already and we certainly don't need it incorporated in the law.

We need to see some streamlining from the EPA. This is not a grants program, it's a loan program. When you buy a house, you go to the lender and they give you a loan. They don't tell you what kind of drapes to put in your house and they don't tell you what kind of furniture, and they don't tell you when to clean the house and have the cleaning people come or do it yourself, which I refuse to do, but nevertheless, in this program that's exactly what we're getting.

The Inspector General is telling those local governments what kind of furniture to put in their offices, what kind of specific details need to be incorporated in the development of their sewer plant. This is just unacceptable under a loan setting. So we need to go back and do some housecleaning in the State Revolving Loan Fund and get rid of some of those unnecessary oversight positions.

We, of course, want to see the States have the continuing lead role in this, whether it be the Drinking Water Program or the Clean Water Program. If, in fact, that is through legislation, we hope that you will work very closely with the existing Clean Water SRF to develop the drinking water SRF. The last thing we need is two separate tracks of these programs coming together and coming apart while the States have to administer both programs.

I won't spend too much time on pollution prevention. I'd like to see you incorporate that theme. It's a philosophy of management. It's not something that we simply do, it's something that should be throughout the course of the entire Clean Water Program.

Nonpoint sources are a real frustration for the States. We don't look very good in the Nonpoint Source Program and there's a reason for that. Section 319 is a demonstration program. It puts the States at odds with one another under a beauty contest or an ugly puppy contest, whichever you choose, to debate one another, to write grants and, in fact, be at a competitive situation with one another.

What we need to do is build a national, comprehensive, nonpoint source program by increasing the capabilities of the States to manage nonpoint sources. If you give them a one-time project grant, they can't keep those professional staff people onboard, they can't manage an effective program, and they can't lobby their own legislatures for additional funding. So we really want to see funding, stability and a long-term commitment of the Congress to do a good job on nonpoint sources because we're not looking good, as I said, in that program.

Regarding Watershed protection, and then I will summarize. We must have the States in the lead role. We would oppose any legisla-

tion that would call for a new level of government. We can't even afford the level of governments we have, let alone putting on a whole new layer to manage watersheds.

The Constitution of the United States puts the States in the role of managing the health and welfare of the people of that State. That to me would include managing the watersheds and the basins. We don't need new legislation. The original authors of the Clean Water under Section 303(e) already dealt with watershed and basin planning. We might want to do a little tweaking there but we don't need a whole new program, especially if we're not going to get any new money for it, which I assume there isn't much left in the pot for these kinds of things anyway. So we would oppose any new level of government being created.

Last, for stormwater, the guidance was late, the money is not there. A number States—I'll give you Vermont as an indicator—Vermont says that their Stormwater Program will be ten times their existing NPDES Permit Program. With no money attached to the Stormwater Program, that is an impossible task for a State to achieve. So we would say we need to go back and look at our Stormwater Program, see what the deadlines are, if we can meet them and put a realistic stormwater program in place.

We need stormwater programs, States are doing a good job where they can, but it needs a "real look" see as we go through reauthorization.

Finally, I would say, Mr. Chairman, 100 percent we support the National Governors' position on small and hardship communities. Many of these small communities cannot find their way to the Loan Program. Within the context of SRF, we would support some funding for small and hardship communities. We definitely do not want to see a whole new structure created for management of such a program, however.

I'll summarize with that and again, thank you, Mr. Chairman, for holding these hearings and compliment you both, minority and majority, for having outstanding staff. We enjoy working with them.

Thank you.

Mr. APPLGATE. Thank you very much for your testimony.

Next we will hear from Terry Agriss.

Ms. AGRISS. Thank you, Mr. Chairman and members of the committee.

My name is Terry Agriss. I'm president of New York State's Environmental Facilities Corporation and, as such, administer the New York State Revolving Fund. I'm pleased to appear before you today to testify both in my capacity as a New York State official and also as President of the Council of Infrastructure Financing Authorities, known as CIFFA.

CIFFA is a national organization of State and local authorities whose mission is to finance public infrastructure facilities. Most of our State members manage at least the financial component of the State revolving funds for wastewater treatment and, as such, we're vitally involved in the current and future success of the SRF Program. My testimony today will address Title VI of the Clean Water Act and the SRF provisions.

CIFFA supports reauthorization of this program which, from our experience as State managers, is working extremely well as an efficient and economic mechanism to provide low cost financing for public wastewater treatment needs. The SRFs have fulfilled the vision which Congress had when it created the loan funding mechanism in 1987. We urge the committee and the Congress to extend the programmatic and financing authority for Title VI which, with some minor legislative adjustments, can address the Nation's major needs for wastewater funding well into the next century.

In support of this assertion, there are several points I would like to make to the committee. I'd like to summarize these. I believe you have my written testimony.

As both NGA and ASIWPCA have noted, all 50 States, plus Puerto Rico, now have implemented the State Revolving Fund Program. We had a survey done by the State of Ohio for CIFFA which indicated that as of June of last year, we had received in the State, \$6 billion in Federal grants and we had matched that with our 20 percent State share.

Including leveraging which is perhaps a unique factor in this program, the total loan pool as of June 1992 was \$10.7 billion. Out of that, as of June, 1,363 project loans had already been made. We think this is enormous testimony to the effectiveness of the SRF Program.

In addition to traditional sewage treatment plants, projects that had been funded included combined sewer overflow projects, stormwater and nonpoint source control projects. We think that the SRF allows us tremendous flexibility and we've been very creative in how we use them.

One of the things we would like to note is we are very encouraged about the suggestions by the Administration regarding adding drinking water as an eligible activity under an SRF Program. We would strongly encourage you to include drinking water in the existing SRFs. While we recognize the jurisdictional questions here, we do believe that it would be far more efficient to include both types of activities, drinking water and wastewater, under a single SRF.

There are significant credit issues that would enhance the drinking activities if these programs could be combined, particularly for those States that are leveraging their SRF monies.

You have heard from your constituents, and perhaps some of your colleagues that local governments would prefer to return to a grant program rather than the SRFs. I'd like to expand a little bit on what my colleagues have said this morning.

We think that returning to a grant program really is not the way to go. There are some local governments that have been appearing regularly in Washington recommending a return to grants or asking for specific authorization for grant programs for those projects. Some of those are local governments that had opportunities under the old Construction Grants Program, did not take advantage of them, while others proceeded to meet the criteria and to participate in the Grants Program or, in fact, to go ahead on their own. We think it would be unfair to now reward those communities that had not participated previously.

Let me give you a few examples of why we think the Loan Program is the right decision. It has been terribly effective and we would like to ask that it be continued.

Loans provide assistance to more projects. If, in fact, the SRFs were financed say at \$2 billion a year for 12 years, you would fully capitalize the SRFs. What that means is that you would be able to finance on an annual basis at least the same amount of projects that you could finance with the first year's capitalization so that over a 20-year period, even with just 12 years of capitalization, you would be able to finance \$133 billion worth of projects. With a grant program over that same period, you would have \$4 billion in projects, less than one-third, that are possible under the SRFs.

As you know, EPA has estimated the current needs of wastewater treatment to be in excess of \$100 billion. We think the SRFs clearly are the way to meet this.

Also, when fully capitalized, the SRFs can assist you to reduce the structural deficit that we have been facing in that you can, in fact, reduce the amount of money or, in fact, eliminate it, other than perhaps small contributions to keep pace with inflation after the funds are fully capitalized.

Further, loans are more efficient. Municipalities, when they are in fact receiving loans as opposed to grants, look at the types of projects that they are building and determine how to do the project least expensively. We've had experience in New York State where communities that had initially expected to come in under the Construction Grants Program had designed projects that were able to meet all of the Grant criteria and because the community really was paying only a very small share of those projects, tended to be what we call Cadillacs. Under a loan program, some of those communities are now building Chevies.

We have experience where communities have built projects that literally cost about half of what the cost of a project would have been under the grants program. Communities care about what their projects are like when they have to pay for them.

Also, projects are built faster under the loan program in that communities can start construction on their projects as soon as they are ready. Under a grant program, communities had to wait, get in line for a grant, and then have to receive approval before they could begin construction.

If a community, in fact, went ahead and started a project prior to having grant approval, they jeopardized the entire grant. The SRFs are able to refinance projects so that a community can start at any time and come in when they are ready for an SRF loan. In fact, many States have taken what we call a no-wait policy and will finance projects as soon as that project is ready to go.

Because the States are able to leverage their funds, that is to issue bonds in the public bond markets, we can expand the amount of capital that is available under the loan program and therefore, we can make the loans whenever communities are ready. Communities don't have to stand in line, they can come get their financing when they are ready to go.

A very significant issue that has been raised—I know, Mr. Chairman, you are particularly interested in this, and Mr. Boehlert—regards small communities. Many people have asked the question of

small communities and loans, how can they participate. As Robbi indicated, one of the ways of doing this is through technical assistance.

In New York State, we have a program called Self Help where we do provide technical assistance to small communities to help them design their projects and look for the least costly way of achieving water pollution control objectives. This is a program that EPA has allowed us to fund under our administrative monies in the SRF, but it is something that I would suggest you might want to look carefully at and use as a model and encourage EPA to allow us to provide this kind of technical assistance, particularly for small communities.

Another point that is frequently overlooked is the Rural Development Administration has monies to provide grants for small communities. In fact, under the President's proposals, those monies would be significantly enhanced. While I recognize that many States have had problems working with their local RDA offices, we believe it can be done and, in fact, in New York we have worked closely with RDA to combine the programs so that a small community has, in many cases, received an RDA grant, in some case an RDA loan, and also an SRF loan. These programs can work together.

There are other instances where not only have we participated with RDA, but also with HUD under the CDBG Program so that funding can go to a small community from at least three sources and we believe that this is the way to go. Our goal in New York and what we would recommend elsewhere is that the agencies work together to provide the best deal for the communities. We believe this can be done.

The other issue under the State Revolving Fund Program is if you have done everything you can, you've provided technical assistance to the small communities, you've worked with RDA, you've worked with HUD and there are still problems in getting an affordable project to a community, what else can you do?

We believe what we call a principal subsidy is the way to go. A principal subsidy works very similarly to a leveraged loan under the SRF Program in that we would take capitalization monies from the SRF, the Federal dollars with the associated State match, set those monies aside in a reserve account for an economically disadvantaged community. We would make a zero interest loan to the community under the SRF, and then we would take the interest earnings off that reserve account and provide the interest earnings as part of the principal payment that the community would have to make.

Some people say it sounds an awful lot like a grant because the amount of money that the community must repay under a principal subsidy program is reduced. However, there is a very important distinction between a principal subsidy and a grant. That is, because the principal subsidy comes from interest earnings on a reserve, you're never actually invading what we call the corpus or the capital that is in the State Revolving Fund.

So if the State Revolving Fund started out as a \$50 million fund and it made a loan to a small community, and made a principal subsidy payment, because you're only using interest earnings, your

fund is still going to remain at \$50 million. You have not reduced the size of the fund and we believe very strongly that your intent was that the SRFs are inviolate, that we should maintain their value over time, and this is a way to do it and still provide the assistance to the small communities that they so desperately need.

We have greater detail on all the points that I've made in my written testimony and I would be very pleased to answer any questions.

Thank you very much for the opportunity to appear before you. Mr. APPLGATE. Thank you very much, Ms. Agriss.

Mr. Slade.

Mr. SLADE. Thank you, Chairman Applegate.

I'm David Slade. I'm Director of the Coastal States Organization.

First, let me extend my regrets, Gail Shaffer, the Secretary of State of the State of New York, wanted to come down and testify. This is a topic that is near and dear to her heart and strongly in her interest but she couldn't make it today, so I am here to do that.

The Coastal States Organization is a representative association of the Governors of the 30 coastal States on the Atlantic, Gulf of Mexico, Pacific and the Great Lakes, plus the five commonwealths and territories of the United States.

We've wrestled with the many questions involved with the reauthorization of the Clean Water Act for a long time. As of November, we came up with the consensus of my organization on five topics: contaminated sediments, combined sewer overflows, the National Estuary Program, nonpoint source pollution control, and finally, wetlands. I will summarize them, Chairman Applegate as quickly as I can. You have my full statement and I request that be incorporate into the record.

As we've gone through, we've had three principles in mind. One, we'd like to better coordinate the existing Federal programs that are already out there. Many Federal programs have responsibilities under the umbrella of the Clean Water Act. Second, we'd like to best utilize scarce Federal dollars. I think everyone is in agreement on that. Third, we want maximum flexibility of the States to address these many problems.

On contaminated sediments, we believe the Clean Water Act should be amended to clarify that the State water quality standards approved by EPA in accordance with Section 303 be binding on the Army Corps as well as on any other person who is seeking a permit.

In 1988, the Army Corps enacted regulations for their operation and maintenance dredging. Under those regulations, they set a "Federal standard" but through those regulations, the Army Corps does not incorporate Federally-approved State water quality standards into their Federal standard. By doing that, the Corps supercedes Federally-approved State water quality standards, which guts both the letter and the spirit of the Clean Water Act.

We also believe that much stronger effort should be made on prevention of the contamination of sediments, obviously, the least costly route and again, coordinating the existing Federal programs. I think Congress should look at developing new or enhancing the existing programs such as nonpoint pollution control, the industrial pretreatment and stormwater management programs in order to

provide the assistance to States for preventing sediment contamination.

Finally, I'd like to note that the recent amendments to the Ocean Dumping Act that were done by the Water Resources Development Act of 1992, which addressed the contaminated sediments, only apply to those ocean waters beyond the low water mark. They do not apply to many bays and estuaries, nor in the Great Lakes. We believe that they should.

On combined sewer overflows, we think that the variety of factors ought to be looked at before the abatement program is put into place. These factors are the degree of water quality improvement that would be the result of a combined sewer overflow upgrade, the amount of benefit to natural resources and the wildlife habitat, the feasibility of elimination of any combined sewer overflow, what alternatives there are to just upgrading the combined sewers, a comparison of the elimination versus alternative costs, and of course, a look at the financial resources of the responsible government entity and the financial resources available from the Federal Government.

In these tight budgetary times, at every level of government, remedial measures should be undertaken in priority. Focusing first on those combined sewer overflows which cause the most environmental damage, the best strategy with such limited funding is to first implement those combined sewer overflow abatement measures which deliver the maximum benefits in water quality, natural resource and wildlife habitat.

We believe the precise mix of the control measures will vary depending upon local conditions and for this reason, the Federal assistance should include a full range of alternatives available to the States, including but not limited to enhancing industrial pretreatment, implementing best management practices and stormwater and watershed management.

The third topic is the National Estuary Program. We'd like to see better coordination between the National Estuary Program, which is established under the Clean Water Act, and the State Coastal Zone Management Program established under the Coastal Zone Management Act. Again, this is not only good management, it's better for budget planning and you get better results for both programs combined.

A significant shortcoming, in our view, of the National Estuary Program is its failure to institutionalize the management plans. That is, these plans contain recommendations but don't have the teeth of enforceable policies. One way to give the management plans more teeth is for them to be incorporated into the State Coastal Zone Management Plans which are statutorily required to contain enforceable policies.

If you look at the legislative history of the 1987 Clean Water Act amendments, it suggests that these management plans are supposed to be incorporated into the State CZM plans but to the extent that this has happened really varies State by State. We believe that a legislative directive is needed to ensure the full coordination between the National Estuary Program and the State Coastal Zone Management Program.

Under the former Administration, the U.S. EPA's policy was not to provide funding for implementation of the NEP management plans but they would provide money only for the development of those plans. We think after the development of the management plans, the Federal Government cannot walk away and say that its participation is finished. If the NEP Program is to be successful, there must be Federal assistance to the implementation of the National Estuary Program plans.

One way to do this is to make States eligible which have approved management plans, make them eligible for SRF funding. Finally, because of the unlikelihood of any additional Federal funding, we believe that we should concentrate on ensuring the success of the 17 existing management plans rather than trying to expand this already stretched program even further.

Nonpoint source pollution, since 1987 when Section 319 of the Clean Water Act was enacted, nonpoint pollution has gained even greater attention as a contributor to water quality degradation. While Section 319 programs are being developed, at the same time, Congress retooled the nonpoint source control effort in the Nation's coastal areas by enacting what is commonly known as Section 6217 of the Coastal Zone Management Act which is the Coastal Nonpoint Pollution Control Program.

The Coastal Nonpoint Pollution Control Program, under the CZMA, requires State nonpoint source and coastal management programs to utilize both the best available technology that is economically achievable and water quality standards in coastal areas for controlling nonpoint source.

The problem arises in that the CZM Coastal Nonpoint Pollution Program provides for sanctions against both that program and the Clean Water Act Section 319 funding in the effect that a coastal State has not developed an "approvable" coastal nonpoint source pollution program.

For fiscal year 1992 and fiscal year 1993, the Federal appropriations for the development of the Coastal Nonpoint Program under the CZMA was only \$2 million in each year which breaks down to \$70,000 a State which really doesn't pass the giggle test when you look at it. It's a setup for failure. If the mandatory Coastal Nonpoint Pollution Program under the CZMA is so drastically underfunded, it's doomed to fail and when it does fail, it has a 30 percent sanction against the funding not only for the coastal program but a 30 percent sanction against funding for Section 319 under the Clean Water Act, which doesn't make much sense to us.

We believe that Congress should amend the sanction provisions against 319 and the CZMA Coastal Nonpoint Source Pollution Control Program and allow the administrators of EPA and NOAA to have the discretion to limit the use of sanctions only to situations of last resort. Good faith efforts on the part of States to meet the Section 6217 requirements shouldn't be penalized, especially when adequate Federal support for this mandated program has been so lacking.

Finally, the fifth topic, the least controversial of them all, wetlands, we believe, as a matter of philosophy, that if Congress is going to define or delineate wetlands, that should be on a sound,

scientific base and we're talking about science science and not political science.

We also take a look at approaching wetlands preservation through the 404 Program alone. The 404 Program was a water quality program and of course water quality is important to wetlands preservation, but, as you've heard today, wetlands are also important for many other things such as wildlife habitat, recharging of aquifers, flood control and so on.

Although we believe Congress should provide for greater protection of wetlands, perhaps the Clean Water Act should have its own standalone section dedicated to wetland protection rather than trying to retool the 404 Program.

Another problem in this area is the effect of the Army Corps' nationwide permits on wetlands. Nationwide permits are only authorized for activities which have a "de minimis" impact on the aquatic environment. The Army Corps, however, reasons that because the impacts are minimal, there is no need for any monitoring or reporting, but these unreported and unmonitored activities number in the tens if not hundreds of thousands all around the United States.

Although the assessment of cumulative impacts is required under the Clean Water Act, to our knowledge, the Army Corps has never considered the cumulative impacts in the administration of the nationwide permit program. Reporting and monitoring requirements need to be statutorily mandated by the Clean Water Act.

Finally, the Army Corps refuses to comply with a State's denial of a nationwide permit based on its federally approved water quality standards or its federally approved coastal management program. The Clean Water Act should be amended to clarify that it is solely the prerogative of the State to determine which discharges are subject to water quality certification authority and that no nationwide permit should be available where a State has been denied certification or found the nationwide permit to be inconsistent.

Mr. Chairman, that concludes my remarks and I will try to answer any questions you or the subcommittee may have.

Mr. APPLGATE. I thank you very much for all of your statements. It's obvious that you are very well versed. As you had stated, each of your statements will be included in the record in full.

Incidentally, we want to try to restrict the questioning to five minutes each and if we run out of time, which I'm sure we will, we will be asking you to answer questions that will be submitted to you from time to time because it will be invaluable in the assistance that we need to come to the conclusions that we hope we can reach.

I noticed that most are interested in including drinking water in the State Revolving Fund in some kind of a method. I would suggest I would have no objection. As a matter of fact, it would probably be a pretty good idea to put that in.

There are problems, one of which is not the least, and that is there is a jurisdictional problem within the Halls of Congress. Whether or not we would be able to do something about that in this session of Congress is highly unlikely. However, I think down the road, it's something that should be addressed and I think that it will. That remains to be seen.

Also, I noticed that most do take an opposing view of the "old grants program" that we had and something that I had looked upon somewhat favorably. We will address that as we go along and there would be no intentions of having a drag on the existing amounts of money that the State Revolving Funds already receive. I think it was addressed by Ms. Agriss to some degree on how that can be accomplished through certain formula that you were talking about for technical assistance, and we will see.

First of all, I have a question for Mr. Hemmer. We've been looking for ways to improve the existing nonpoint pollution program and as you know, many States have identified nonpoint pollution as the largest remaining water quality problem. In 1990, Congress required EPA and NOAA to develop guidance for States to use in developing enforceable nonpoint pollution control programs in the coastal States.

While I recognize that Wyoming is not a coastal State, does the National Governors' Association have a position on a coastal zone nonpoint program and whether it could be expanded to apply nationwide?

Mr. HEMMER. Mr. Chairman, as you note, Wyoming does not have any coasts and I'm going to have to plead ignorance as to whether or not the NGA has a position on the coastal portion of it. I believe it is our position that we would not like to see the Nonpoint Source Program become an enforcement program because I think at that point it takes already scarce resources and probably isn't as effective, if we can, through education and other measures, affect the societal changes we need to in essence prevent the pollution.

Mr. APPLGATE. You don't know whether the NGA has a position on that?

Mr. HEMMER. We do not.

Mr. APPLGATE. You do not.

Robbi Savage, many Clean Water Act interests have been advocating a watershed approach to addressing water quality and I guess that will be addressed by the TVA when they come in on May 5. Your organization advocates States taking the lead role in developing and implementing this approach. Other than the usual funding concerns, can you identify impediments in the present law which restrict the ability of the States to address the water quality programs on a watershed basis?

Ms. SAVAGE. Well, I'd like to spend a little time with the philosophies incorporated in the Basin Planning Program under section 303 that's currently in the law. Basically, what we said in the early days, or you all said, was look at the entire watershed and basin within the context of your State and plan for how you want your community and your State to grow and develop.

Sadly, in the early 1970s, with the 208 areawide planning and section 303, the planning sections got left behind as we were in such a hurry to get all those big construction grants out to local communities. Now we're in the position of going back and saying, now we have all this hardware and we have all these decisions that have been made, maybe we should have done some planning in the beginning and now let's call it watershed. It is not new. It is some-

thing that we should have been doing and many States have been doing from the outset.

The concern that we have with some of the watershed proposals that are circulating is that it provides the opportunity, one, for communities to focus only on nonpoint sources. Quite frankly, this is one of the suggestions of a couple of organizations that, all right, we've done our job in the point source area, most of us are at secondary treatment, so leave us alone for a while and focus on nonpoint, get those farmers, get those other guys, and let us do our thing. Some of the industry folks would like to see us do that as well.

We're very concerned that a watershed proposal has to be balanced in such a way as to provide for a nonpoint source focus which we sorely need but also to maintain the integrity of the Point Source Discharge Program. To take one over the other is simply not an efficient way to manage the money and a waste of the money that we put in if we ignore our Point Source Program. If we use watersheds as a diversionary tactic away from point sources, then we're not doing our job.

The second issue that some of our friends are promoting with the watershed proposal is to have an opportunity to downgrade standards and designated uses. There are times when science becomes more effective, when we learn more, that this may be necessary, but certainly not on a wholesale basis.

We don't want to turn the focus away from good science, but we want to maintain the integrity of our water quality standards. There are areas where they need to be more stringent and there are areas of our country where perhaps we can look at downgrading standards, but I don't want to use, and our association doesn't want to use, watersheds as the mechanism to go around the country downgrading water quality standards, though I wouldn't suggest that is the intent of any of the organizations, but in fact, that might be an opportunity.

While watersheds should be focused on at the State level, it's a very good opportunity to bring all the interests together to look at how you manage the water of your State, to focus on those priority programs within your State that are not being dealt with, to look at how the pollution sources are affecting the streams in your community and the States and then to make comprehensive decisions. It's about time that we do that, the initial authors of the Clean Water Act told us to do it, and now we need to get back to doing what we were supposed to do in the first place.

Sadly, planning does not have a very good reputation but it's the very important component that was missing while we were building all these sewer plants.

As we talk about nonpoint source, Mr. Chairman, I think it's important that we balance the issues of enforcement and voluntary programs. We'd like to look at an opportunity to develop some language that would say, let the States and the communities and the farmers have an opportunity to do it right the first time under a voluntary program. Perhaps if they are not doing it right under a voluntary program, we should develop other ways of dealing with the Nonpoint Source Program to solve our nonpoint source problems.

There is no way we can get around the fact that we have major nonpoint source problems in this country and we have to do something other than talk about it. A demonstration program under Section 319 is not the only way to deal with this. We need something far more comprehensive than that.

We would suggest that on the CZMA language, we need a little more education and a little more implementation of that program before we wholesale put it in the Clean Water Act. So we're very concerned about just taking that piece of legislation and flopping it into clean water without having some time to know if it works effectively and what the glitches are in that program.

Mr. APPLGATE. Thank you. I'll get one more question in and I'll let the committee ask.

To Terry Agriss, getting back to what we were talking about before, in your testimony you urge the continuation of the State Revolving Fund Program and oppose the return to grants. I'm not sure we want to say we're just going to cut off loan programs and go to grants, I was looking for a combination.

In February, we did hear testimony from the small rural communities which indicates that even no interest loans can't meet the needs of certain communities. I know that to be a fact in my own area. You advocate using a set aside to earn interest to assist communities with principal subsidies. In today's economic climate marked by low interest rates, do you believe that such an arrangement can generate such an income to adequately assist these communities and what about the possibility of developing a repayment schedule which would generate enough income to subsidize economically-disadvantaged communities?

Ms. AGRISS. The low interest rate environment has some interesting repercussions obviously on the running of a loan program but we do believe that we could, in fact, invest the reserve funds at a return that would be adequate to provide sufficient interest earnings. Obviously, you can also change the amount of the set aside that you provide for a specific community so that you can generate the particular amount of income.

The tradeoff there is how much money you have working in a reserve as opposed to really going out and building more projects. Some people have, in fact, suggested that what we can do is dedicate the interest earnings off certain of what we call the direct loans that we make to wealthier, if you will, communities and use those interest earnings to provide the principal subsidy for the disadvantaged communities.

We don't believe that the investment of funds will be a problem. We believe that we can, in fact, develop mechanisms to do that and there would be adequate return on those investments to provide the necessary subsidies. There are some tax questions that come into this which we've looked at and don't believe will be problematic in achieving the intended result.

Mr. APPLGATE. But you do agree that these small and rural communities do need additional assistance to help them?

Ms. AGRISS. Again, we believe that small communities, in many instances, do require special assistance. We would start with technical assistance, zero interest loans, RDA and then to the extent

necessary, the principal subsidy where you can reduce the necessary repayment.

We would not advise that you reduce that repayment to zero. As I indicated in my testimony, communities really are much more cautious about the way they construct their facilities if, in fact, they are responsible for the payment of at least a portion of it. So you could perhaps come up with a number, either write down the principal repayment 75 percent, even 90 percent, but at least leave some amount that the community would be required to repay.

Mr. APPLGATE. Thank you all for your answers.

Mr. Boehlert.

Mr. BOEHLERT. Thank you, Mr. Chairman.

Ms. AGRISS, I really want to welcome you here as a fellow New Yorker because I'm proud of what you're doing. You do an outstanding job.

Tell me a little bit about the principal subsidy program. The Chairman and I are really concerned about the poorest of the poor communities and they just can't come up with two nickels to rub together. How do you determine how much of the principal you would subsidize? Do you have a formula basis in New York? Talk us through that a little bit, if you will.

Ms. AGRISS. In New York, what we currently have is a program that I think many of you know is primarily an SRF that is what we call a leveraged program. We issue bonds in the bond market and loan the proceeds of those bonds to communities at a subsidized interest rate.

However, for poor communities in New York, what we are also able to do is to provide what we call direct loans where we take the capitalization monies, the Federal grants, and the State match and loan some of that directly to municipalities. We can do that currently at zero interest. That's as much as we can do under the current program.

In determining what communities really qualify for zero interest loans, we have developed a mechanism where we look primarily at median household income, compared to the sewer and water fees that are charged in that community, and look at the ratio of those numbers. So those that are below a certain point would qualify for zero interest loans in our program.

We would strongly recommend that a similar type of formula be used in determining what communities are eligible for principal subsidies. We would strongly recommend that you leave to the States the flexibility to determine which communities would qualify because some States have very different needs than others. Median household income might be appropriate in New York; it might be something else elsewhere.

We do believe that the formulas can be developed. One of the benefits of doing that is you may have situations where over time, a community initially could afford only a particular amount as an annual repayment, but if they have an industry come in, some development, they could afford more over the 20-year life of a loan.

You can, under a principal subsidy mechanism, go back and revisit the issue and determine on a periodic basis, after 2 years or 5 years, for instance, what the affordability is and you can adjust that as necessary by the amount of money in a reserve fund.

Mr. BOEHLERT. I know the word flexibility comes up in all of your testimony. I'm one, as a former county executive in beautiful upstate New York, I know how important that is. I know also how important it is that money follow mandates or accompany mandates.

If we give you the flexibility to have the principal subsidy program, which I'm enamored with, I like the concept, how do we have it as objective as possible rather than having it subjective? I think that's important.

Ms. AGRISS. That's an excellent question because one of the concerns is to maintain the integrity of the fund and to make it as efficient as possible. We believe that by having a set formula where we can look at hard, factual information, that you can have an objective system.

The way New York State has worked this in the past is that in our regulations that govern our State Revolving Fund Program, we have included the formulas that we use in making those determinations on zero interest loans. I would encourage the Congress to direct States that if you go ahead with this, those formulas be set in some type of formal basis so that you avoid some of the subjective determinations that otherwise might go on.

Mr. BOEHLERT. One other question. You're well aware of the problem we're having in New York with the watershed in places like Delaware County. Should there be special consideration for communities in an area like Delaware County as we approach this overall problem of the New York City water?

Ms. AGRISS. Again, I think the best way of approaching this is on a need basis, looking at affordability of a project in a community and providing the assistance that is required to make the project affordable, be that through zero interest loans or principal subsidies, or working with the other agencies that I had suggested in my testimony.

In the New York City watershed, there are many, many complex issues. We have been actually working closely with New York City and some of the upstate communities as well on how to use the existing SRFs to make projects more affordable.

There are many things that can be done under existing statute. Some people have said, well, how do you fund a nonpoint source project with a loan. We think there are a lot of ways to do that. It may not be feasible in every instance but we think the States can be very creative in developing ways to use a loan mechanism.

Mr. BOEHLERT. New York State has been exceptionally creative under your leadership and just let me commend you for that.

Ms. AGRISS. Thank you very much.

Mr. BOEHLERT. I look forward to working more with you and my staff, which that's brain power right over here.

Ms. AGRISS. We've met with Gabe and we certainly appreciate your assistance.

Mr. BOEHLERT. One further question if I may, Ms. Savage. As one of the three Republicans in the House who supported the President's economic stimulus program, I can speak with some authority about it. But one of the things that bothers me on that program is moving up to \$845 million from 1994 to 1993 and the matching requirement for the States, the 20 percent match I can understand,

you don't look a gift horse in the mouth, but the fact of the matter is we're going to have fewer projects under construction by waiving that 20 percent than we would if we continued to require it. Have you taken a position on that?

Ms. SAVAGE. We would like to see it waived. When we were asked by the Administration how this would affect the States, and whether or not to move the money forward, we didn't understand at first. We were very happy, we thought \$845 million of new money, hurrray.

Mr. BOEHLERT. It's creative accounting.

Ms. SAVAGE. Yes. Then we saw the charts and in the long term, it wasn't a big hurrray after that. Basically, what the President is suggesting, as we understand it, is to just move 1994 money forward to 1993. To do that and get any kind of work done in the time frame that they are requiring, you couldn't go back to your State legislatures and ask for an additional match. There simply would not be time.

That's why when they asked us, if we were to do this, what would you need out of the way? We said, certainly the States can't go back to the legislatures, many of them have already gone home to ask for additional funding for a State match for \$845 million. So we're supportive of it if, in fact, the \$845 million is going to be there, but the end result is we're asking the States to hurry up to slow down. We're moving \$845 to 1993 and disrupting the program and then going down to \$1.2 for 1994. So, it is \$3.5 million in 1993 down to \$1.2 million and back up to \$2 billion.

Mr. BOEHLERT. That's creative accounting. On one side of the ledger, they're saying we're cutting unnecessary spending and they use that \$845 million reduction for 1994 as an example, which I think is disingenuous at best because that's certainly not unnecessary Federal spending. Then would you suggest we increase the match for 1994 or no?

Ms. SAVAGE. As I understood the waiver of the match, it would be only for the \$845 million stimulus. Definitely for us, we don't want to see it go down to 1.2 because as you well know, watching the budget process, once it goes down there and they give that \$800 million to some other program, it's going to be darned difficult for us to get \$800 million back in our program if not impossible.

Mr. BOEHLERT. Well, we're going to help you.

Ms. SAVAGE. So we appreciate it and we're going to need all the help from this committee we can get.

Of course NGA and ASIWPCA have written to the President saying, please don't take it down to 1.2 because you'll devastate our program.

Mr. APPLEGATE. Thank you, Mr. Boehlert.

\$845 million from 1994 but it was necessary spending, not unnecessary reduction in spending.

Mr. BOEHLERT. Well, I was just observing that this Administration is no different than any other Administration. I'm not being partisan in this respect, but it is creative accounting when you list all the money you're allegedly saving the taxpayers by cutting out unnecessary spending and this \$845 million reduction in fiscal year 1994 is in that category.

When you talk about the stimulus program, you take that same \$845 million on the plus side of the ledger and you say, look what we're doing to stimulate the economy. I think it's disingenuous. Of course it's not unnecessary spending. I think the spending is very necessary for wastewater treatment and like you, I agree that the one should not be reduced in 1994 to 1.2. I'd like to get it up considerably over \$2 billion.

Ms. SAVAGE. So would we.

Mr. BOEHLERT. Thank you.

Mr. APPLGATE. Mr. Menendez.

Mr. MENENDEZ. Thank you, Mr. Chairman.

Several of you have raised the issue of funding and I would like to know if the funding issue has created a situation in which local taxpayers ultimately have to face increased local taxes to make up the shortfall. Are communities who have to comply under the law facing the possibility of sanctions or is that not in play in terms of the funding issue?

Does the low level of funding put any of the municipalities, who have to comply under the law, in the position of choosing between raising dollars on their own from taxpayers and sanctions if they don't move because the local tax bases can't afford it? I'm interested as a former municipal official.

Mr. HEMMER. I believe that's exactly the problem that many of our communities have right now. They are faced with compliance and in facing that compliance under programs much broader than what we're talking about here today, they are faced with trying to come up with those resources. That was exactly the point I was getting at when I said if we're going to pass on the mandate to them, we need to be cognizant of the funding, we need to keep the funding levels up in the programs and we also need to give flexibility such that we can prioritize the limited funding they have towards the greatest risk to the citizens of those communities.

Ms. SAVAGE. Mr. Menendez, under the Clean Water Act, particularly in the beginning, there was a philosophy that if funds were not made available under the grant programs, then compliance could linger. In the mid-1980s, the States and EPA worked together on what is known as the National Municipal Policy. For the first time, the word that was used was, we de-coupled compliance from funding and basically said, you've had almost 20 years now to meet the requirements of the Clean Water Act and thereby, if you don't get a grant or you do get a grant, that's not the big issue here. You've got to meet the requirements of the law.

Since that time, the municipalities have been moving expeditiously forward, and they were in advance of that, to meet the secondary treatment levels that were required by 1972.

So in the eyes of the law and certainly, EPA, whether or not a community is funded or not, is not the issue. They are required to meet secondary treatment levels as required by law.

Mr. MENENDEZ. Which then means that local taxpayers, if their communities are not fortunate enough to receive any assistance from the Federal Government, are paying to meet the federally-enacted statute?

Ms. SAVAGE. That's correct but that's why we wanted to move to the SRF, as Terry indicated, to provide the opportunity to get more

money out to local communities on a very specific, strategic program that States could anticipate year after year instead of having to worry about one year we've got \$5 billion worth of funding and the next year, we have \$2 billion, or exactly what we're seeing in the stimulus. We need a specific stream of funding that is out there and predictable for local governments to build these plants with.

Of course now with a 20-year life under the Clean Water Act, most sewer plants that were built with the early grants are up for rehabilitation and reconstruction. So we're not just looking at those who haven't done what needs to be done, we're looking at a whole new group of folks that did what they were supposed to, but now their sewer plants are outdated. So it's a big field out there that we need to deal with.

Mr. MENENDEZ. And they have to upgrade to meet the standard?

Ms. SAVAGE. Exactly.

Mr. MENENDEZ. In line with that, Mr. Hemmer raised a point on page three, "No one knows the extent of the Nation's NPS pollution problem, there are probably thousands of watersheds requiring similar levels of treatment." Isn't that a call for having some type of inventory or needs assessment survey so that we will know, as we try to fund these programs the number of continuous programs that have a long range funding mechanism so that there will be a steady stream? You say here, "We have too many examples in Wyoming of good projects that failed because they weren't carried to fruition due to the lack of funding."

Mr. HEMMER. You have to assess your watersheds now, so I think you have one tool you can look at in terms of what our status is and where our impaired watersheds are. We've suggested in here that there does need to be a sequencing and an evaluation such that if you have put the plant in place and the plan isn't working, in fact you have to go back and look at the plan again.

I think there also needs to be a priority approach to the watershed such that through that evaluation, you're addressing those in greatest need.

Mr. MENENDEZ. Mr. Slade, in your written testimony, when you talk about clarifying the State water quality standards which are more stringent than Federal requirements—do these apply to the dredging of sediments? For example, at a seaport or a marine port if there is dredging that has to be done in order for ships to come in and to meet its depth, is that part of what you're suggesting take place?

Mr. SLADE. The ports are already complying with State water quality standards, federally-approved State water quality standards. Our problem lies with the Army Corps.

Mr. MENENDEZ. But, it's the Army Corps that issues permits to allow that dredging.

Mr. SLADE. But the Army Corps conducts an awful lot of operation and maintenance dredging by itself to the tune of 800 million to 1 billion cubic yards of dredging. When the Corps issues a permit to a port or to a company or an individual entity, all of them would have to comply with federally-approved State water quality standards before the Corps could issue that permit. When the Corps does its own operation and maintenance dredging, it's in its 1988 regulations, it sets a Federal standard and that Federal

standard is the least costly, environmentally-acceptable manner for conducting this dredging.

That is also a budget vehicle. What the Federal standard is for any dredging project is how much the Corps allocates of its budget to do that. What the Corps has been doing is not incorporating federally-approved, State water quality standards that are more stringent than a federal standard that EPA has promulgated alone.

So if a State's federally-approved water quality standard is more stringent, it's not incorporated into the Army Corps Federal standard and the Corps says, State, you have to pay for that.

Mr. MENENDEZ. I'm confused. Give me a definition of what their own projects means.

Mr. SLADE. The Army Corps does an awful lot of dredging.

Mr. MENENDEZ. Themselves?

Mr. SLADE. Themselves.

Mr. MENENDEZ. Of what?

Mr. SLADE. Of ports and navigation channels. They dredge about a billion cubic yards a year and they are not issuing themselves a permit. The Corps doesn't issue the Corps a permit; the Corps just goes and dredges under its own regulations. It's those regulations which do not incorporate the water quality standards federally-approved by EPA that the States have set through the Clean Water Act.

Mr. MENENDEZ. Thank you, Mr. Chairman.

I have some other questions I'd like to submit to the panel.

Mr. APPLGATE. You may do that and they have agreed to answer additional questions that we will submit to them.

Mr. Gilchrest.

Mr. GILCHREST. Thank you, Mr. Chairman.

Ms. Agriss, could you give us a copy of the principal subsidy proposal? Is it written down in policy form?

Ms. AGRISS. Certainly. We can provide that to the committee. I'd be happy to do that.

Mr. GILCHREST. It sounds fascinating. I think it's something that we ought to closely consider to be incorporated into the Act. I have communities in my district with whole towns that have failing septic systems and they must comply with State regulations, but they have no money to fix them.

Ms. Savage, I think you were referring to nonpoint source pollution when you said we should push for voluntary compliance first in that particular area. I agree with that, but suppose the voluntary compliance isn't working, is there a suggestion that you have for some mechanism or some criteria upon which they would then be subject to a mandate?

I don't necessarily agree with this, but the Federal Government, in order to get compliance from some States as far as highway speed or when someone should be allowed to legally drink, you get highway transportation funds dependent upon if you raise the drinking age from 18 to 21 and the States have that. It's called voluntary compliance but there's a little hammer behind the carrot approach.

Is there something you have in mind for voluntary compliance with nonpoint source pollution?

Ms. SAVAGE. The position of the States has always been that a voluntary program for nonpoint source is the appropriate direction for us to take, but as we've looked at developing watershed protection programs as the concept of trading between point and nonpoint has been discussed as we do in the air program, we realize that it all comes back to the point source discharger because if farmers do not do what they are supposed to in a negotiated watershed protection program, who are you going to hold accountable in a trading situation? The farmer doesn't have a permit, there's nothing legally binding, so you have to come back to the entity that does have a permit and hold them accountable.

That doesn't seem fair in the long term when we keep saying that anywhere from 50 to 80 percent of our problems that remain are of the nonpoint type. So our association just this year has developed a more extensive program that says, voluntary education development programs should be the first line of defense, but after a period of time, if in fact that entity—that farmer or that community—is not doing the kind of nonpoint source controls to ring in the water quality to a level of acceptability, then we need to look at a more formal regulatory program with mandates. I would be pleased, sir, to share that with you.

I am concerned though about the philosophy of holding money hostage in one program for another. We did that in the air program—if you don't do A, B and C, we're going to hold up your sewer money. Well, good, then we have dirty water and dirty air. That makes absolutely no sense.

So, yes, there should be other ways of sanctioning but diminishing and degrading two environmental programs for the price of one makes no sense to me.

Mr. GILCREST. I guess in the voluntary approach, which I also agree with, in order for a farmer to comply with the established best management practices, then there needs to be some incentive for him to do that or there has to be some funding in order for him to comply with the regulations?

Ms. SAVAGE. Exactly. That's why, as Terry indicated, the States are promoting expanded use of nonpoint source programs within the body of the State Revolving Loan Fund and to have the flexibility, as they do in Wyoming. If you don't have a lot of sewer plants to build, but you've got a lot of nonpoint source problems, then put your money there within the context of the SRF.

We'd like to work with the committee to make sure that we can develop a strategy that makes sense and a program that we can work where these guys who have to make these decisions every day can put their money where the most important water quality problems are.

Thank you very much for meeting with our president when he was in and testified last in Merchant Marine and Fisheries Committee. We appreciate your taking time.

Mr. GILCREST. You're welcome.

Mr. Slade, I'm not sure if I caught what you said exactly but you made some mention that when you have coastal zone management programs to develop and estuary programs to develop that it always cost the State some money. I thought I heard you say that

a management plan should be eligible for SRF funding. Was that correct?

Mr. SLADE. Yes.

Mr. GILCREST. Who would get the funding for developing a plan such as that through the State?

Mr. SLADE. The management plans are to be implemented both at the State and local level. It would vary.

Mr. GILCREST. So a community that was right on the bay, or a community that was right on the ocean that was mandated through some measure by the State to comply with State regulations, thereby, they would have to come up with their own particular management plan which might cost a great deal of money. That municipality or town would be eligible for an State Revolving Loan Fund to pay an engineer to come up with the plan?

Mr. SLADE. No, the plans are already developed and approved. What we're saying is, once they are approved—let me back up. Under the former Administrations, the U.S. EPA would not allow any of the available money for the implementation of the plan. The plans are management plans; they are not mandatory to develop. This is a voluntary program, but once they are approved, once they're developed and have been approved, then the former Administration, through the U.S. EPA, prohibited any Federal money for the implementation of them. The implementation fell on the budgetary shoulders of the States and local governments.

Those shoulders are pretty narrow these days and what we are saying is one idea is perhaps making State and local governments eligible for funding the implementation of those plans through the SRF.

Mr. GILCREST. I thank Mr. Slade for his suggestion on implementation of the management plan which sounds right on target with what we ought to do. You made mention in your testimony that the EPA, being the final arbiter in allowing a permit to go through for a wetlands permit, should be optional under certain conditions. I think I have that correct. In other words, the State should have more say in issuing the permits, which I think is correct. I guess someday that is going to be a possibility for the States to be able to do that.

You also mentioned in your testimony that education has to come first. It's been my experience that an awful lot of people, even State officials, believe it or not, don't have all of the broad understanding of the importance of the use of wetlands. Should they be solely responsible for issuing those permits without any EPA oversight? I'd just like you to comment on that.

Mr. HEMMER. Mr. Gilcrest, I think the States have a lot of abilities for the wetlands program and for taking it over. Our position is that what we ought to get into is a situation where you do delegate the wetlands program to the States and then you have an EPA oversight in your annual review just like you do in many other programs.

I think one of the things the States need is the ability to be more active and I think also, as you go through wetlands, the other thing you can provide all parties to help them a lot is a concise wetlands approach for all agencies. One of the problems you have right now with wetlands is you have a whole bunch of vehicles that address

wetlands and they have differing definitions, differing approaches. Consequently, as we get into trying to work through that, particularly in our instance in Wyoming of trying to develop the Mitigation Bank, it's very difficult when you're going different ways.

I think to the extent that you can put wetlands in one place, that would be very beneficial and then I think to the extent you can put it in place such that the States can take it over with the correct framework and implement the plan as it benefits their wetlands, would be very beneficial.

Mr. GILCHREST. I think putting it that way, you're again very accurate.

I also appreciated the fact that I think everybody up there made the recommendation that wetlands, and all of the issues that we're dealing with, stormwater and point pollution, be dealt with by using in a scientific method, not a political manner.

Thank you, Mr. Chairman.

Mr. APPLGATE. Thank you, Mr. Gilchrest.

Mr. Poshard.

Mr. POSHARD. Thank you, Mr. Chairman.

The previous gentleman just basically articulated one of the concerns that I have. I represent a large, rural area that is bounded on both sides by the Ohio and Mississippi Rivers. We have a lot of wetlands problems in the lowlands surrounding those rivers, but we have a lot all through the agricultural area that I represent.

I think you're right, Mr. Hemmer, in that the States have an appreciation for the value of wetlands. I think they recognize true wetlands as the kidneys of this country in the value they perform for us. It's the maze of jurisdictional authorities that we just cannot wade through. Every day, it's one problem after another—the Corps permitting fee, EPA oversight, the Fish and Wildlife commenting which usually throws everything into a tizzy because then the environmentalists pick up on that and they file suits and this just goes on and on.

It's not that either side is right or wrong, it's just that you can't wade through the maze to ever get to an actual solution to the problem. So I guess the question that I would ask you is whether the Governors have expressed an opinion on this: if you had your choice at the Federal level, which agency ought to have sole consideration of this issue, and second, do the Governors support the idea of a scientific study to try to resolve this question of what a real wetland really is and what should be protected and what should be let go with regard to this jurisdictional situation?

Mr. HEMMER. If I could start with the last one first, the Governors very strongly support a scientific component where you go with wetlands is such that we get into science-based wetlands of how we approach and protect those valuable pieces. I don't believe that the Governors have taken a position on which agency should do it. From my own perspective, it's less important which agency does it than that one agency does it.

Mr. POSHARD. Ms. Savage, if I can ask you a question. One of the largest communities I represent in my district has a nonpoint source pollution problem in their city lake. It may be the runoff from farm chemicals, I don't know. It's in the middle of a large agricultural area.

Only for a few days during the year do they exceed the compliance standard for nitrate level in the lake, but that community right now is facing—because of EPA standards—maybe a \$25 million facility that they're going to have to build to treat the nitrates in the lake. They are trying to access monies for a study to see where the nitrates are coming from in terms of nonpoint.

Are we a little too strict here? I can understand if the nitrate level is excessive 365 days of the year or even 50 days of the year, but what if it's only excessive 10 days of the year or 20 days of the year? Are we grappling with some standards there somewhere to try to bring some balance to this thing or what are we doing? What should we do?

Ms. SAVAGE. Well, sir, one of the things I learned very early in my career was not to second-guess a member of my association in public. That's perhaps why I have some longevity, especially without the information to make some judgments about why they would have come down on the position they did.

If you would like, I will go back to the member in your State and ask why they developed the position and are taking the enforcement mode that they are and get back with you on it, but it's not a good idea to talk when you don't have the facts.

Mr. POSHARD. Let's talk about it individually. Can you contact my office then and we'll share some information on the particulars of that. I'd just like to get some opinions.

Ms. SAVAGE. Absolutely. We'll do that, sir.

Mr. POSHARD. Thank you.

Mr. APPLGATE. Thank you, Mr. Poshard.

Mr. Horn.

Mr. HORN. Thank you very much, Mr. Chairman.

Let me ask a question to all of you since you're grappling with these problems at the grassroots and most members of the committee appreciate that, that you're living on the firing line. You've now heard all the comments and basic thrust of your colleagues that appeared today, are there any points where you disagree as local administrators with what you've heard concerning the Governors' view, local administrators' view that you'd want the committee to understand your perspective? Does anything come to mind or are you all in agreement, as you see it?

Mr. HEMMER. I'm not aware of anything that the other members have said that I'm in disagreement with.

Ms. SAVAGE. It's not by accident, sir, that our testimonies are very consistent. It's also not a good idea to be inconsistent with the Governors. We work very hard 365 days a year to develop our positions as State administrators, as representatives of the Governors and the financial associations to make sure that we work well together. So before we come here, we do a lot of work to make sure that we are consistent.

The only thing that I would suggest is within the CZMA, again, we do have some concerns that taking that legislation and wholesale putting it into the Clean Water Act at this point is a little early to make that judgment, but that would be the only issue I would take even the smallest concern with.

Mr. HORN. Okay. Any other comments?

Mr. SLADE. Yes. I think you focused on what I was nervous about coming here this morning, whether we would sit up here and disagree. I've been pleasantly surprised that we haven't. The Coastal States Organization does work very closely with both ASIWPCA and NGA. I know that we independently developed this testimony.

What I heard, if I may venture out here, was three points of agreement. One, we need better coordination between Federal programs that are existing now. We have lots of Federal programs that are out there being independent and doing their own thing. We don't have the money for that luxury anymore. I don't care about Federal agency turf battles. I couldn't care less. I want them to get together, I want their science, I want their technical assistance coordinated. I think that point would be shared.

The second thing is we need to best utilize the scarce Federal dollars. I don't think there is any argument with that.

The third point I think you heard from at least the three of us on this end of the table was whether it's voluntary or mandatory programs, give the States the maximum amount of flexibility to address these problems locally. Combined sewer overflow problems in Alaska are not the same as combined sewer overflow problems in Florida. Louisiana wetlands are different than New Jersey wetlands.

Mr. HORN. Very good.

Ms. AGRISS. I would simply add that we do work closely together but we also have strong beliefs in what we're agreeing to. The States do feel that you have developed a mechanism through the State Revolving Fund that really is working exceptionally well. We applaud Congress for having the foresight to have implemented that.

I think where you may hear some disagreement unfortunately is your hearings tomorrow.

Mr. HORN. Ms. Savage, I have one question on which I need clarification on your watershed pollution comment where you said you think they can be best dealt with at the State level. When you have a watershed that overlaps State boundaries, is your thinking that the States involved would enter into a special compact for coordination and management of that watershed or how do you see handling the situation that goes beyond the State boundary?

Ms. SAVAGE. More than half of the States currently have interstate commissions and compacts. For example, here it's the Potomac Interstate Commission where the States of Pennsylvania, Maryland, D.C. and Virginia work regularly on the Potomac watershed and parts of the Chesapeake Bay. So in many States, those mechanisms already exist.

In areas, Wyoming would be one, where an interstate compact necessarily doesn't exist, there are organizations that do exist where States can get together. Ours is one. The point of our association is to bring the States together to build commonalities between the way they manage their programs.

Within the 1972 law, there were calls for conferences between States that had differing positions on water quality standards and so on. So mechanisms exist. We don't have to create a new one.

Interstate issues arise all the time that have to be dealt with and they are dealt with. In some instances, it's loud yelling in the back room, but they come out of the room and they get their jobs done.

Mr. HORN. Thank you.

Let me just make one last comment. Mr. Slade, I enjoyed your comment that we need sound science, not political science. Now, I am a political scientist by profession, so I assume you did not mean the profession.

I am reminded in your comment on science that when my daughter was one year old, she was asked, what did her daddy do and she put her hands on her hips and said, he's a pitiful scientist. [Laughter.]

I think what we're talking about is pitiful science not being in some of these debates, but the problem what gets admitted in court. Indeed, the Supreme Court is grappling with that, perhaps has grappled and I just haven't read the opinion.

Do you have any words of wisdom when you've got these competing expert witnesses that say one thing and the other, and never the two do meet?

Mr. SLADE. Sometimes I don't think the scientists are anymore cohesive than political scientists. One detail that I could put on the record is that the National Academy of Science is in charge of developing a study which has gone underfunded, if not unfunded. The NAS study is supposed to be out December of this year and because of lack of funding, I don't think that's going to happen.

We are all fairly eagerly awaiting the National Academy of Science's report which hopefully will be based on science as to the wetlands issues.

You mentioned the courts wrestling with this and I know Mr. Hemmer touched upon this in his testimony and we agree with it. That is legislation, congressional legislation shouldn't define statutorily what is or is not a taking. We think for better or worse, that is a constitutional question, both the Federal and State Constitutions to be determined in court. We need an awful lot more flexibility there. That's just a flat out legal approach to which branch of the Federal Government should be determining what is or is not a taking in violation of the 1st or 14th Amendment. Again, I say for better or worse, that is more properly the role of the courts.

Mr. HORN. Thank you, witnesses. I think you've all given splendid testimony.

Thank you, Mr. Chairman.

Mr. APPLEGATE. Thank you, Mr. Horn.

Chairman Mineta.

The CHAIR. I apologize for not being here for the time of all the testimony but I'd like to ask Mr. Hemmer a question. Mr. Hemmer, in your testimony you're talking about the SRF as it relates to the Water Treatment Program to be expanded into an SRF for the clean drinking water issues. I'm wondering in that regard, how do you think we can best maximize, or how would you structure it so we can maximize the ability to get a good program if we go the approach of the SRF on the clean drinking water issue, given the existing structure for SRF on the wastewater treatment side?

Mr. HEMMER. Mr. Mineta, my suggestion would be quite simple, add funding to it and expand the breadth for which it can be used

to include drinking water and simply allow the State to use that funding mechanism to cover either one of them.

The CHAIR. Would States be able to utilize the same funding mechanism whether it's for clean water purposes or safe drinking water purposes?

Mr. HEMMER. I'm unaware of any impediment to doing that. It seems to me the SRF works well for wastewater and it should work similarly well for drinking water.

The CHAIR. Ms. Agriss.

Ms. AGRISS. I think it's a very interesting question. One of the things that the committee may want to consider is that there really is in many instances a fuzzy line between what is a wastewater project and what is a drinking water project. Recently, EPA came out with an advisory that allows us, for instance, to fund under the existing SRF's, the treatment of sludges from water treatment facilities or backwash from those facilities on a standalone basis. That could either qualify as a water project or wastewater project. Similarly, many nonpoint source projects might come under either wastewater or drinking water.

So you have a kind of fuzzy situation in those cases. ASIWPCA very strongly feels that by combining the two programs you will have a much stronger program at the end and that it is perhaps a little complex. You may want to continue having separate appropriations in order to preserve the likelihood that we will get adequate funding for both types of activities but that the monies ought to be able to be combined in a single fund for those States that are leveraging their program to maximize the benefit of the Federal contribution.

We feel very strongly that the credit benefits of combining the two funds are really extraordinary.

The CHAIR. Robbi.

Ms. SAVAGE. One of the concerns that we would have is the undermining of the current SRF under clean water by simply plopping something into clean water without really thinking it through. I understand, as you're going through your negotiations on the stimulus package, you have three options: one, using the appropriations process; another the budget process, and legislation through authorization.

These issues are very complicated and I would be very concerned if the appropriations process were the vehicle you use to the exclusion of those of you who are on the authorizing committees. We would of course see the jurisdiction decrying political science the whole time, but the bottom line is there are jurisdictional issues here and certainly in the States. In the Drinking Water Program, some of the programs are not handled in the environmental agency but in the health department.

So to simply put some money in there and expect it to happen overnight is not a realistic expectation. I think it demands some very close evaluation on how to most specifically and efficiently connect the Clean Water and Drinking Water Programs and what we want to accomplish in doing that. Do we want to mix the two of them in totality or just the funding programs or what are we trying to accomplish here, just getting the money out in a short period of time?

If we do want to bring them together, then very surgically and specifically, we should design our programs to be efficient at the State and Federal levels. Otherwise, I can see the two programs which are both designed for the betterment of water resources throughout the country being at odds with one another on Capitol Hill, at EPA and certainly within State and local governments. That's really the last thing we need at this juncture.

I would hope that all of you maintain jurisdiction as best we all can and stay within the discussion because it's not going to be an easy task. We appreciate your leadership in this area.

The CHAIR. If EPA submits legislation, I hope it is, frankly, as an amendment to the Clean Water Act to establish the SRF. Then it will be in our jurisdiction. If the SRF is established as an amendment to the Safe Drinking Water Act, then we probably would not have any jurisdiction. That's going to be a point of discussion that I'm going to have with the Administrator of the EPA before she submits.

Ms. SAVAGE. I wouldn't want to be in her shoes.

The CHAIR. So whatever help you can provide on that to everyone, I'd appreciate it.

While I've got a couple of minutes left here, let me ask you, in your testimony, you oppose the idea of mixing a grant program with a loan program in the SRF. I'm wondering if you could expand on why you take that position? In particular, it seems to me we like to talk about the kinds of multiple benefits that we get from the SRF mechanism, basically because it's a loan program and the SRF is constantly recycling. How would adding a grant program to the SRF affect those multiples?

Ms. SAVAGE. We're in opposition to the recreation of a wholesale construction grants program. Even though I know the Administration is going to be asking for \$100 million to do this very thing, we don't think that's a good idea and it's the States' position through the ASIWPCA and CIFA and through the National Governors Association that this is the wrong direction in which to go.

The reason for that is that we worked very hard at your direction to create SRF's. All 50 States have them and they are working well. For a community that sees the opportunity for a grant, why would they want to take out a loan if they can wait and get the money? That's only good fiscal management if you happen to be a local government official.

Within the context of the State Revolving Loan Fund, we would support small community, a hardship community, depending on what the definition is, particularly as outlined by Terry and CIFA in the principal subsidies. That is a direction where we can help small communities do what they need to do.

I think the real contentious issue here is the Boston, New York Cities, the San Diegos and the Puget Sounds, who are very large communities. Other communities would argue that they had their opportunity to meet secondary treatment levels, for whatever million reasons, did not. And, should they either be rewarded for not doing that by getting more tax dollars to do the work that perhaps they could have done and should have done in other times, or should they have to figure out how to do it? It's a very, very difficult problem to be in.

Massachusetts is where I was born and it's a very tough situation for those people. The rates are outrageous. I understand that, but some decisions were made back in the early 1970's that brought them here. A lot of communities that moved forward and met the requirements of the Clean Water Act don't take kindly to very large grants to communities that, as I said, for one of the million reasons did not follow suit.

The CHAIR. Is there a way to have a threshold level there maybe? As you say later in your testimony, "Small communities need help." Is there a way that, by having a threshold level, small communities can get help through a grant program and the larger communities or combined plants through joint powers agreements would not be eligible for because they are what you might refer to as super treatment plants? They would not be eligible for those plants, whereas local, smaller communities, smaller treatment plants would be eligible under a grant program?

Ms. SAVAGE. I think that's very possible. In her testimony, Terry outlined the principal subsidies program that we support. Just as a suggestion, we can give you some language on that, Mr. Mineta on how we might be able to do that. There is an \$800 million gap in fiscal year 1994. Maybe that's the place to put \$800 million to address the small and hardship communities if we can develop a principal subsidies program to do that in a very short period of time.

There's no debate within the water community that these small communities need help. The New York program of self-help is very creative and it's a wonderful way to deal with this. We have to find the money to help small communities without destroying the corpus of the fund. That's our real concern. We need this money to build plants in perpetuity. If we start giving out grants, we're going to undermine the corpus and dwindle the money away. Ten years from now, you're going to haul us back and say, why did you screw up the program.

We want to make sure we keep that corpus in tact and the principal subsidies that Terry outlined is a way of doing that for small communities that we very much support.

The CHAIR. One of the big problems I had in trying to push for extra funds in the economic stimulus program, whether it was transit, highways, water pollution, whatever program it was, is there the capacity to handle this amount of money, whatever it might be by the agencies to do whatever—highway repair, transit programs, water pollution control?

I'd always get this response, well, we don't know whether the States are ready to go, so we had to put these 90-day provisions into the highway program, yet projects are ready to go within a certain period of time.

It seems to me given the needs that exist, we can point to \$100 billion needs in x number of years, 20 years, if we even increase this, if we are able to, say up to \$5 billion in terms of the SRF Program, are we going to be able to absorb the \$5 billion per year in an SRF program, are the States going to be able to handle that?

Ms. SAVAGE. As you know, the spend down on the construction of wastewater treatment facilities takes a number of years. On the other hand, at the request of Mr. Baucus, ASIWPCA did do a sur-

vey of the States. If money goes into the stimulus package, how much can we use and how fast can we get it out. We were able to document \$10 billion of immediately needed projects that can go through the pipeline. The concern, of course, that we have is that the expectation then is jobs, not only getting those sewer plants going but how many jobs are attendant to those?

We've been talking very consistently with the agency, with EPA. The day when this is signed, you guys will have to do your job so the States can do their jobs, so the local governments get that money out there. Through this entire exercise, that may be the one thing that will be worthwhile, forcing us to streamline this program to get the money out.

Yes, we're in a position to use it, we're in a position to use it wisely. Had we gotten \$5 billion in a stimulus package, we would have had to do a lot of scurrying. In an authorized amount where we can plan effectively for a long-term program, there is no question we can use the money. If it's \$5 billion one year and \$2 billion the next, and half a billion the next, then you've got a stop and start situation and that's inconsistent with doing effective management. If you want to go to \$5 billion, we can certainly support that without any question.

Of course that's our position, the Governor's position and CIFA's. So we can do it.

The CHAIR. We want to make sure that there is some kind of stability in there and we don't get the peaks and valleys in terms of the appropriations process.

I think also in regard to this, are we going to make sure that States are able to do priority projects and not get into exotic things.

Ms. SAVAGE. We know that our collective backsides are on the line for this. The President managed a clean water program through his executive branch agency, he knows about the clean water program. I chatted with him when he was a Governor about SRFs, so he understands the program. There is no question about that and he's going to hold us accountable. So the States are very much aware that we've got a lot on the line, as EPA is. So, yes, we're going to be able to do this.

The CHAIR. One final question. Expand, if you might, on this unnecessary oversight problem that you're referring to?

Ms. SAVAGE. You want me to be specific about the oversight. We have a tremendous amount of reporting, there's the governor's 20 percent set aside that you worked with Governor Matheson and I to put in several years ago. Those restrictions simply shouldn't apply any longer. It's not a grant program anymore, it's a loan program. To have all those Federal strings on this money when, in fact, these communities are taking loans. They are not being given money, they should be able to design the programs the way they see fit as long as they do the job and meet clean water requirements.

We have a whole laundry list of things that we would like to see out of the Clean Water Act under Title II and the crosscutters, historic preservation being one of them and other social goals that are crosscutters as well. There are 28 of them, as you know, and we need to be able to look at where we can streamline the management of the program.

EPA doesn't have the people to do it, the States don't have the people to manage it, so there are a lot of ways we could make the program more efficient. Perhaps, since he manages one of them, Dennis would like to give some specific suggestions.

Mr. HEMMER. Mr. Mineta, I think Robbi has very articulately touched on some of those issues. We have many requirements that in and of themselves are very laudable, but simply don't apply to many of the plants that we are building and we are spending money going through those reviews anyway.

I think to the extent you can get it to an applicable arrangement, you can save both parties a lot of frustration and money.

Ms. AGRISS. I would just add in terms of a specific, we are an environmental agency. New York State has a strong environmental review process of its own. EPA requires that we have a duplicative NEPA-like process that can add months to our approval of a project to go forward for SRF financing. So we think there are any number of crosscutters as Robbi has suggested that really could be foregone. You would not reduce the environmental protection or other social goals that you have, but we would get projects built faster.

The CHAIR. Let me ask on that, is there a way to make whatever your State requirements are and the NEPA requirements concurrent rather than sequential or are there problems with your State requirements?

Ms. AGRISS. They are somewhat divergent requirements. The level of review that is required is greater under the Federal requirement in terms of which level of government frankly does the review. It means that there are more people that have to do the same work and we think it's actually duplicative and could be streamlined.

The CHAIR. If the State is certified to be eligible to work the problem, why would there be the divergence?

Ms. AGRISS. The difference here is EPA has required us to do what is called a NEPA-like review which they require to be done by the State's environmental department as opposed to under State law, a local government can go through the entire process on its own. So we now need both local government to do the environmental review and have it essentially redone at the State level.

The CHAIR. Very well. Thank you very, very much. I appreciate it.

Mr. APPLGATE. I thank the Chairman.

Last but not least, Mr. Hamburg.

Mr. HAMBURG. Thank you, Mr. Chairman.

I really appreciate your holding these hearings. The more we talk about the reauthorization of this act, slowly some of the information that I need to have at my command is seeping in, so I hope to become both more knowledgeable and better able to work with all these issues that the panelists have talked about so well this morning.

Part of being sort of one of the lower folks on the totem pole is that you not only have to be patient, but you have to be prepared to have most of your questions preempted by previous questioners.

One of the things I was glad to hear, and I really identify with Congressman Boehlert on this, is the issue of funding for small communities. I represent a large rural district with lots of small

towns in upstate California. Mr. Boehlert represents upstate New York. We have a lot of problems in common with respect to small communities that didn't get on-line with early programs and now are faced with large fines and penalties for not meeting standards which they don't have the money to meet. So I was very glad to hear the discussion about various ways that we can use RDA, use HUD, use principal subsidies. I think all that information is very useful.

The question I want to ask is something that hasn't come up this morning and I'm not sure if it's come up at other hearings or is it something we're going to talk about more in the future, which is the whole area of INA, innovative and alternative systems.

This is something that I don't know a lot about but having been a county supervisor on the north coast of California and dealing with issues of rebuilding sewer plant infrastructure, there were two towns in my county that took radically different approaches to dealing with their wastewater treatment needs.

The town of Ukiah, which is the town I actually come from, built sort of the high energy use, high tech, lots of expensive engineering, lots of concrete, a wonderful treatment plant that was a great job but it cost about three times more than the one built in the community of Arcadia which also dealt with their wastewater treatment needs but used a marsh system and used a whole different kind of treatment scheme and also met the requirements.

I guess what I'm wondering is, since the dollars are so scarce to deal with the problems of the communities, are we really using the systems that are the cheapest and perhaps also the ones that use less energy, and can spread the dollars out further if we use these more innovative technologies. I don't know who to ask about this. If any of you feel especially qualified, just jump in.

Ms. AGRISS. In New York, as I indicated in my testimony, we have a program that's called the Self Help Program. It was started with the assistance of Rensselaer Institute which is nonprofit. It is designed to provide technical assistance to small communities.

Through it, what we do is really provide an intensive hand-holding effort to a community to look at what is the level of technology necessary to solve the community's problem and we can bring some expertise and a significant amount of experience to looking at a community's situation.

We have been able, in many instances, to really significantly reduce the cost of construction of the project as well as the ongoing operation and maintenance cost by using lower tech solutions to that. I think as many of us have suggested this morning, technical assistance to small communities in particular, is very important so that you can assist those communities and develop the appropriate solution to their problems at the most cost effective cost.

Mr. HEMMER. I'd like to add that I think you've also made a very good argument for the SRF approach in that when you have to pay it back, you're going to look much more cautiously at the life cycle cost of that entire operation, both operation and front end, than you will when it's a grant.

Ms. SAVAGE. It sounds, Mr. Hamburg, that you've been talking to Mr. Claussen who we always called the king of innovative/alternative when he was representing California.

There are some concerns with the whole program. Not every State creates at the same level of a California or a New York. Having lived in California my whole young life, I know there is a lot of opportunity for creativity and a lot of ways to solve our environmental problems, but you can't mandate every State, every organization and every local government be equally creative.

The problems that we had with the IA set aside in the past is that, if in fact it was not utilized for IA projects, then the monies went back. It was set aside specifically to do IA, and if you didn't do that, and couldn't be universally creative, then the money went back to be redistributed to other States. That caused us, as a group, a significant problem.

Other communities would try things, even sometimes technologies that weren't very effective, and they knew it, because it was 100 percent funding of IA. If it failed, it failed and there you were. Now we'll go back and get our 75 percent grant.

So in developing IA, it's very important that we push technology and we be as creative as possible, use wetlands as drainage when we can, and so on, but to mandate that everybody in this country be equally creative is just unrealistic and then to punish them for not being creative by taking their money away when we all have clean water needs. So I hope we are not talking about going back to what we had in the IA program in the past.

Mr. HAMBURG. In terms of IA, I guess my prejudice is from watching this process unfold in my home town of Ukiah was that because these more innovative systems were seen as a little bit outside the pale, there was not the willingness to try, there was not the willingness to actually follow models that had proved successful in other communities.

It seems as if the way these systems had always been built and the way the engineers wanted to move them and the way the large construction companies wanted to see them built, seemed to kind of take precedence over the idea of being a little more creative, spending a little less money and doing something that would have served the needs of the community.

As I said, there were these two communities almost exactly the same size. One community spent three times more to develop a fairly comparable system. I'm not talking here about technologies that are untried. What I'm hoping is that through your various organizations and through the Federal and State governmental entities that are concerned with this, we not be afraid to buck the interest that would like us to go a certain direction on these projects, that we not get stuck in old patterns and old ways of doing things when there are new technologies that are biologically sound, chemically sound and much cheaper and can make these funds go further.

I don't know if that matches up with any of your experience. I don't think I'm proposing here that we fund with government grants a lot of outlandish schemes.

Ms. SAVAGE. I'm stepping over my bounds here, but I'll do this to my colleague anyway. Terry has really done a good job with her Self-Help Program and she's got that written out. The community comes together and solves their problem, they decide what kind of a plant they need and if somebody has a bulldozer down the street,

they bring it down and they do a lot of community service work. So maybe, Terry, you could share that with one of our newest members of the committee.

Ms. AGRISS. Surely. I'd be happy to.

The concept of self help, as I said, is really intensive technical assistance. As Robbi notes, one of the things we try and do is look at the abilities within a community itself. If the highway department has some assistance they can provide through either heavy equipment, perhaps digging trenches, that you use what's already in the community. It can be something that's enormously helpful.

It's something that we've talked to EPA about. It is currently funded under the administrative allowance in the SRF Program, part of the 4 percent that we're allowed to use for administration. It's one of those things that we have suggested strongly to EPA that they provide information on how this program works to other States.

CIFFA has been assisting EPA in some training courses in the last few years and are looking forward to continuing that. That is one of those areas we think can really be helpful.

The SRF programs are still new and there is an awful lot the States can learn from one another. I think we've been doing that well so far. At our training conference last year, we had 47 States participating, but there is more that can be done. I think to the extent that EPA can be encouraged to provide the kind of information to all of the States on these self-help programs, it would be enormously beneficial.

Also, I think the bottom line of a lot of this is what Robbi stated earlier, which is because these are loan programs, small communities do have to make a repayment and they do look much more carefully at what their costs are going to be. So it is absolutely in their interests to look at how can I be most cost effective in designing a project.

I think the point you bring up regarding some of the consulting engineering firms that they have been doing things a certain way for years and will continue to do that is an indication that there's an awful lot of education that needs to take place. I think we all need to try and do that education.

Mr. HAMBURG. I'm just hoping some of that education will come from you folks because I think too many times we just think there's one way of doing things. In my town of Ukiah, the engineers were able to convince the city council and the board of supervisors there was only one way to deal with these problems and meanwhile, 100 miles up the road, they're dealing with them in a radically different way, solving their problems, spending a third of the money, and making our resources go further and probably treading more lightly on the environment.

Thank you.

Mr. APPLGATE. Thank you, Mr. Hamburg.

Just one final comment. I just wanted to ask a question of Ms. Agriss and also Mr. Slade who said that he was more interested in science, science than political science.

In the real world, and you're sitting in the greatest political arena in the world and we have no scientists here, we're all politicians. The real world is that there will be political decisions made

that may be or may not be fortunate, I don't know. There are political jurisdictions which have to be considered. We hope that we can do the job that we are paid to do and do the job that is required and mandated by the people of this country. That is to give them what it is that they want and that is clean water, whether it's drinking water or any other.

I wanted to ask Ms. Agriss, it's somewhat of an intriguing idea, that doesn't mean that I am giving it my support, but I do believe that small communities should be assisted through some kind of a program, whether it be a grant program either as a set aside or through what your own formula is.

How much money is in the New York Fund?

Ms. AGRISS. There are a couple of ways of looking at it. So far we have made \$1.2 billion worth of loans, we've made loans to over 70 communities. The size of the Federal grants so far to New York State is approximately \$600 million. That's met with approximately \$120 million State match.

Mr. APPLGATE. So you could draw a pretty sizable amount of money on investment so that you could create a set aside type of program to help these small communities?

Ms. AGRISS. Yes, we could. One of the things that because of New York's characteristics, we have made \$1.2 billion worth of loans but practically one-third of the loans we've made have been to very small communities where they have been under our direct loan program, not our leveraged loan program, which is really for the larger and more financially capable communities.

Mr. APPLGATE. The idea is good. The only thing I have a problem with is how would that kind of a program reflect back to say West Virginia, who has not much of a fund and probably a disproportionate share of communities who are in dire need of some kind of assistance?

Ms. AGRISS. There are a number of States that are in the situation of being primarily rural and having a very significant number of poor communities. We've worked closely with Louisiana, for instance, that is similar, I suppose to West Virginia, to that extent.

We believe that there is a great deal of ability in those States through the financing entities that already exist there. So they could establish exactly the same kind of program that we were talking about this morning with the principal subsidy. Many States have used the existing financing arms of their government to make the SRF loans, so it's either through a State Treasurer's office or something of that sort.

We have worked with people in Kentucky, we've worked with people in Louisiana, as I noted, and other rural States. We think Wyoming has a great program. It's really very innovative. So there is, notwithstanding the differences in the individual characteristics of the States, there is an awful lot we can learn from one another. While the size of the funds may be smaller, the needs are frequently also smaller, although perhaps smaller in monetary terms, although no less complex in terms of the technical issues that are raised.

We believe there is an awful lot of expertise out there in the financing arms of the States and that they can run these programs very effectively.

Mr. APPLEGATE. I thank you very much. We certainly will be exploring that as an approach that I think has a lot of merit. I appreciate all of you coming in today. You were excellent, excellent witnesses. You didn't hold back, you were right there with your answers and we appreciate that very much.

Thank you very much.

Next, we'll have our last panel which is Water Quality 2000, Mr. Paul Woodruff. He will be accompanied by Robert Adler, Kenneth Kirk, Ernest Shae, and Kathryn DeLacy.

Mr. Woodruff.

**TESTIMONY OF PAUL H. WOODRUFF, P.E., PRESIDENT AND CEO, ENVIRONMENTAL RESOURCES MANAGEMENT, AND CHAIRMAN, WATER QUALITY 2000 STEERING COMMITTEE, ACCOMPANIED BY ROBERT ADLER, SENIOR ATTORNEY, NATIONAL RESOURCES DEFENSE COUNCIL, AND STEERING COMMITTEE VICE CHAIRMAN, KENNETH KIRK, EXECUTIVE DIRECTOR, ASSOCIATION OF METROPOLITAN SEWAGE AGENCIES, AND ERNEST SHEA, EXECUTIVE VICE PRESIDENT, NATIONAL ASSOCIATION OF CONSERVATION DISTRICTS**

Mr. WOODRUFF. Thank you very much, Mr. Chairman.

It's appropriate, I guess, to begin with a good afternoon. We are pleased to be here and to have an opportunity to present our views to the distinguished members of this subcommittee.

My name is Paul Woodruff. I'm the President and CEO of an environmental consulting firm, Environmental Resources Management. We are based in Exton, Pennsylvania. We have 70 offices around the world and employ about 2500 people.

I have over 30 years of experience in the water and environmental management field, but the reason I'm here today is to share with you my experience as the Chairman of the Steering Committee of Water Quality 2000. I've also served as the Chairman of the Water Environment Federation's Government Affairs Committee.

I'm joined on my left by Bob Adler, who is the Senior Attorney for the National Resources Defense Council and he is the Steering Committee Vice Chairman; and on my right is Ken Kirk, who is with the Association of Metropolitan Sewerage Agencies; and on my far right is Ernie Shea who is with the National Association of Conservation Districts.

In addition, here in the audience we have a number of other members of the Steering Committee and I'll mention their names in part to illustrate the breadth of the kind of organization that has brought together the final report for Water Quality 2000.

We also have with us Judy Campbell Bird who is with the Environment and Energy Study Institute; Dr. Peter DeFur, who is with the Environmental Defense Fund; Dr. Margot Garcia, who is with the American Planning Association; Carolyn Olsen now representing the Water Environment Federation; Dick Schwer, one of our representatives from industry who happens to be employed by DuPont. Catharine DeLacy, who had another commitment and unfortunately had to leave, represents the Occidental Petroleum Corporation.

We have, of course, provided you a written statement. This afternoon, I'm going to try to recapitulate a portion of that and highlight a few of the suggestions.

First of all, I need to tell you just a little bit about Water Quality 2000 as we are a unique kind of organization. We represent the cooperative effort of some 75 organizations, including environmentalists, Federal, State and local officials, professional and scientific societies, and academics.

Our mission is to propose and promote national policies and goals for the 21 Century that will protect and enhance water quality with a specific agenda for action. Water Quality 2000 operates under bylaws which spell out our governance process and the rights and obligations of each member organization.

We've been funded by a variety of sources, public and private and our 20-member steering committee, which I head, is elected and represents the membership-at-large. So I'm here today not on behalf of any single organization, but to present the consensus views of a diverse coalition of interests.

The Clean Water Act is probably the most successful environmental statute. Even so, implementation of water quality goals and policies have been complicated by conflict between competing interests and emphasis on the short term, and a patchwork quilt of narrow and sometimes conflicting laws and regulations.

As we approach the 25th anniversary of the act, leaders of WEF, NRDC, the Chemical Manufacturers Association and other organizations felt it would be appropriate to step back, take a thoughtful look at our current programs, and identify appropriate new approaches for the 1990s and beyond.

When we began Water Quality 2000 in 1988, the first thing we agreed on was a vision statement—Society living in harmony with healthy, natural systems. We used our vision statement as a yardstick to see where we stood.

In our interim report which was completed in 1991, we found that although we had made significant progress since the passage of the 1972 Act, and we've spent many billions of dollars, both public and private money, more needs to be done to achieve the objectives of the act, i.e., to restore the physical, chemical and biological integrity of the Nation's waters.

The interim report identified a series of impediments, some technical, some financial, institutional and social. In fact, we believe the root causes are social. This report concluded that focusing attention on the societal cause of water quality problems is essential if we are to articulate long-term solutions in which societal goals are compatible with Clean Water.

Our final report, which I hope some of you have seen, A National Water Agenda for the 21st Century, responds to this conclusion by calling for fundamental changes in U.S. water policy. This report provides a sound, conceptual framework within which to consider improvements to the Clean Water Act and other laws.

The report has been endorsed by 64 organizations to date and we're still counting. That does not include any of the Federal agencies which participated in the development of this report.

While we did not achieve consensus on every subject, there is broad support for the overall policy direction. Although the report

does not focus primarily on the Clean Water Act, or on legislative matters, it does contain many specific recommendations which we hope will be of assistance to the subcommittee.

These recommendations were developed using a workgroup approach that involves several hundred experts working over a long-term time frame and certainly representing a broad cross section of interests and disciplines.

The report begins by articulating eight guiding principles for national water policy. Let me share those with you quickly. One, water resources must be protected to sustain environmental values and the health of our economy. Two, protection efforts must emphasize avoiding or minimizing pollution and resource degradation rather than dealing with their effects.

Three, protection efforts must involve cooperation between all levels of Government and the private sector, with the level of Government most appropriate to the problem, principally responsible for its solution. Fourth, protective efforts should focus on environmental results within appropriate hydrologic units or watersheds, with successes and failures in attaining water resource goals regularly reported to the public.

Five, protection efforts should adopt a holistic perspective, taking into account the interconnectedness of quantity and quality, surface water and ground water, aquatic and related land resources. Unfortunately, that's what makes the job so tough.

Sixth, protection efforts should include a mix of voluntary and mandatory approaches. Seven, protection efforts must be based on a sound scientific understanding of both the natural and artificially altered environments and their interaction.

Eighth, protection efforts should be designed to ensure that beneficiaries of investments in water resources pay the full cost of these investments, while contributors to water quality impairment fully internalize the cost of their polluting activities.

Building on these principles, the report identifies three strategies for implementing an integrated, holistic national policy: first, preventing pollution; second, increased individual and collective responsibility for protecting water resources and third, the overarching watershed-based planning and management.

A few definitions. Integrated means a policy that protects surface, ground, coastal waters and habitat. Holistic means a policy that considers human health; water supply and ecological concerns and avoid simply transferring from one media to another.

Pollution prevention means that we must manage our affairs—how we live, we work, we farm, we recreate, we transport, and we plan—so that as a society, we generate less pollution and manage the waste we do produce better.

Our recommendations for pollution prevention include a mix of voluntary and mandatory measures to promote continuous improvement in all sources and sectors. This includes agriculture, manufacturing, land development, energy, transportation, all types of commercial activity, and individual households.

Prevention is particularly important as a strategy for controlling runoff from agriculture and urban lands, which as you've been told many times already today, is our biggest remaining water quality challenge.

Increased individual and collective responsibility means we must empower the American people to adopt a heightened sense of responsibility for protecting water resources. It also means that all of us must contribute our fair share to the cost of cleanup and prevention. Responsible behavior, whether it's in our homes, our farms or our factories, should be encouraged through education, incentives, and yes sometimes regulation.

Implementation of watershed planning and management is central to all of our other recommendations. One of the biggest institutional impediments to progress is the fact that water programs are typically created and managed along political boundaries.

Nature, of course, unfortunately, doesn't recognize political boundaries. Watersheds are the logical hydrologic unit within which to implement and evaluate our prevention efforts. Water Quality 2000 strongly advocates a nationally-coordinated program with regional watershed planning and management organizations for all 21 of the U.S. water regions.

Watershed planning and management is, as you are well aware, not a new idea. Although areawide planning was a major feature of the original Clean Water Act, this approach was not fully embraced in the 1970s or 1980s for a variety of reasons. We believe the Nation is now ready and indeed must embrace this approach. Our ability to monitor and model is much greater than it was 20 years ago. Many of the gross and obvious water pollution problems have been addressed.

More importantly, the magnitude and nature of our remaining problems, particularly the problem of urban and agricultural runoff, makes a standardized, national approach impractical, wasteful and unlikely to be successful. In fact, a 1976 report prepared by the National Commission on Water Quality stated, "Any effective strategy for control of nonpoint sources within the framework of the Act can only be a product of the areawide planning process."

The watershed approach allows us to consider cumulative impacts and make rational decisions concerning the allocation of limited financial resources, for example, whether in a given watershed it would be more effective in terms of improving water quality to spend \$20 million on a local municipal wastewater treatment plant or to spend the same kind of money to help implement best management practices for agriculture.

Our report includes the following recommendations for implementation of a watershed based planning and management. There are a lot of "shoulds" here for Congress.

Congress should create a new nationally-coordinated program of watershed planning and management, including a mandate for implementation of activities as a condition of participation in planning. That's a key difference from the last time around.

Second, as requested by States, Congress should encourage, authorize and approve the creation of interstate regional mechanisms, including joint Federal-State compacts, to plan and manage water resources. Congress should impose no particular management form on the States and should build upon existing watershed mechanisms. However, planning and management institutions should be required in all 21 of the major water resource regions in the U.S.

Watershed planning and management institutions should be nested to reflect the multiple orders of progressively larger watersheds. Institutions created to plan and manage the smaller watersheds should participate in the planning and management of the larger watersheds to which they belong.

Watershed planning and management institution should plan for protection of groundwater resources and related ecosystems that cross watershed boundaries. That would be a departure from anything we've attempted in the past.

Watershed planning and management should be financed from multiple sources of funds to be made available by the Federal Government, participating State governments, local governments and where appropriate, the private sector.

Many of the other recommendations in our report, including the pollution prevention recommendations can and should be implemented locally within the watershed context. Other specific actions well suited to the watershed approach include: water quality-based permitting for point sources; coordinating local and regional land use and transportation planning with watershed protection goals; shifting water delivery systems away from political boundaries toward more efficient watershed boundaries; and management of runoff, including CSO abatement in developed urban areas.

I would like to emphasize that our call for a nationally-coordinated program is not meant to imply Federal management of individual watersheds. The objective of a national program should be just the opposite—to empower watershed-based efforts at the regional, State and local levels. The Federal role should be to provide leadership, coordination, technical assistance, and some financing and to redirect existing programs to provide incentives and eliminate barriers to a holistic, integrated approach.

I would like to provide you with a copy of an excellent background paper on watershed management in the U.S. which was prepared for Water Quality 2000 and request that it be made a part of the hearing record, along with the executive summary of our final report.

I would like to briefly highlight our suggestions for improved Federal leadership in protecting water resources. More information on our recommendations relating to nonpoint source and industrial pollution prevention, improvements to traditional point source control programs, wetlands protection and financing is provided in our written statement.

First, the foremost responsibility of the Federal Government must be to provide leadership on societal change in adoption of a holistic approach. Federal agencies must implement their water resource programs in a coordinated manner and should set an example for other levels of government, private landowners and facility operators by assuming responsibility for compliance with Federal laws and model land uses at all Federal facilities.

Second, Congress should authorize and fund a new interagency water policy coordinating council, comprised of the major Federal water resource agencies, plus other Federal agencies with authorities that can affect water quality.

Third, Congress should consolidate some or all of the 23 committees and subcommittees that have some jurisdiction over water is-

sues. Water Quality 2000 identified conflicting and overlapping congressional jurisdictions as one of the major impediments to enactment of integrated and holistic solutions.

Congress should adopt a national policy on groundwater protection and EPA should take the lead in forging a new intergovernmental partnership to protect groundwater. Under a new national policy, all States should adopt comprehensive programs that integrate groundwater and surface water protection activities.

In our deliberations, Water Quality 2000 could not agree on whether the Federal Government should play a more comprehensive role in establishing and overseeing groundwater protection activities.

To enable us to accurately measure our progress, Congress should fully fund an adequate national system to integrate Federal, State, local and private water quality monitoring. We have a lot of data out there but it's not coordinated, it's not in the right place, it's not as useful as it could be. Monitoring should include ambient chemical, biological and physical characteristics. Our present database is sparse, particularly with respect to a more comprehensive picture. We frequently have to rely on indirect measurements.

In conclusion, the pending Clean Water Act reauthorization is an obvious opportunity to make some of the changes advocated in our report, but although legislation is one very important way of affecting change, it is not the only one. I know you recognize that. It's often not even the best way.

As our recommendations indicate, research, funding and incentives, enhanced State and local programs, and probably most important of all, even though it's the long-term answer, education must all be a part of the national water agenda.

One of the pitfalls we must avoid is the tendency to believe that enactment of a new law, usually regulating someone else, will automatically solve the problem and allow us to go on with business as usual.

We appreciate the opportunity to appear before you today. WEF and the other Water Quality 2000 member organizations welcome the opportunity to work with you and other members of the subcommittee and your staffs in the weeks and months ahead.

That concludes my testimony this afternoon.

Mr. APPLGATE. I appreciate your testimony, Mr. Woodruff. You presented your program well. You told us what needed to be done and what we should do. I think that's good. We sometimes need to at least know. We don't always have anybody come up and tell us.

It doesn't necessarily mean that we're going to do it but we may. I think it's very good and I appreciate Water Quality 2000 because I know it is an outstanding organization which directs itself to seeing that we do have clean water throughout this Nation and that our people have accessibility to it. I think it's very important.

You mentioned that you support a fully funded and enforceable nonpoint pollution control program. What do you consider a fully-funded level?

Mr. WOODRUFF. The level of funding was not something that the Water Quality 2000 group dealt with in terms of specifics. Of course this program, current congressional considerations are after the fact. Our deliberations produced results that culminated in the

publication of this report last November, so I can't give you any specific number.

Mr. APPLGATE. Do you think you can come up with a number?

Mr. WOODRUFF. We could attempt to do that through our mechanism to provide some guidance.

Mr. APPLGATE. Well, I assume that since you support something like that, you know that we're under the gun too, so we sort of like to know what it is that people are thinking and get some accurate figures.

You are aware that the Coastal Nonpoint Program was enacted in 1990. Do you see that as a model for improving the current 319 Program?

Mr. WOODRUFF. Anybody here on the panel who would like to respond to that?

Mr. ADLER. I'll take a crack at that. We looked very closely at both the existing Section 319 Program under the Clean Water Act which is predominantly a planning-oriented and voluntary program, and we took a look at the new Coastal Nonpoint Source Program under the Coastal Zone Management Act. Given that we were trying to reflect the concerns of both the public and the environmental community and the concerns of farmers and their landowners who are affected by both of those programs, we tried to strike a balance between the 319 Program and the Coastal Zone Nonpoint Source Program.

As Paul has indicated, we support a mixture of voluntary and mandatory approaches to nonpoint source control in what we think is a fairly concise and balanced approach. One, impose enforceable requirements but only in impaired watersheds so you don't require landowners and farmers in unimpaired watersheds to be subject to the sort of enforceable programs that we have in the Coastal Nonpoint Source Program, but you do require some sort of enforceable mechanisms in impaired watersheds around the country.

Two, we recognize the concerns of the farming and other landowner communities not to have some bureaucrat in Washington tell them what to do on their farms. We support a program like the Coastal Nonpoint Source Program where EPA and other Federal agencies provide guidance on a menu of options for best management practices and other ways to reduce pollution of our water from nonpoint sources.

Key to our program is that farmers and other landowners have a direct say in what happens on their land. So we would like to form a partnership between landowners and government officials to have site-specific but enforceable mechanisms on their farms and on their lands to control nonpoint source pollution.

Mr. APPLGATE. What kind of enforcement mechanics would you recommend?

Mr. ADLER. We believe that the form of enforceable mechanisms ought to be left to individual States. One form of enforceable mechanisms might work better in Iowa and another better in Maryland. That is essentially the model of the Coastal Zone Management Program, each State gets to choose what form of enforcement mechanism is most appropriate for their part of the country.

Mr. APPLGATE. Mr. Woodruff, you stated that you advocate a new national program of watershed planning, representing all of

the 21 national watersheds. These watershed areas do cross State boundaries. How would you address recalcitrant States who don't wish to participate or those who do not live up to their expectations?

Mr. WOODRUFF. There probably has to be some type of tie to the funding mechanism to bring that about. Although we did not deal with that in any specific sense, that is a key element in trying to bring this about. We recognize that.

Mr. APPELEGATE. Mr. Adler, I was going to ask you, how do you define, when you talk about an impaired watershed?

Mr. ADLER. There are a number of existing programs under the Clean Water Act to define impaired watersheds. We had a nonpoint source assessment under Section 319(A) of the Clean Water Act, 301(L) of the so-called Toxic Hot Spots Program identified approximately 16,000 watersheds around the country that are impaired predominantly by runoff pollution, nonpoint source pollution.

So we believe that we can draw on existing databases to identify which watersheds are impaired and which are cleaner. Of course our data is incomplete and we support, as Paul mentioned earlier, improved monitoring programs around the country to determine where our water quality might be better or worse than we currently believe. We would start with those existing databases.

Mr. APPELEGATE. You said 16,000?

Mr. ADLER. 16,000. Under the 304(L) Program, the States identified approximately 17,000 impaired watersheds around the country. Somewhere around 700 or 800 were impaired largely by point sources, by factories and sewage plants. The balance were impaired, according to the State data, largely by runoff pollution.

Mr. APPELEGATE. I thank you very much for your answers to my questions and for your testimony.

Mr. Boehlert.

Mr. BOEHLERT. Thank you, Mr. Chairman.

Mr. Woodruff and your associates, I want to thank you for your excellent testimony. I know I'm going to read this from cover to cover. I'm pleasantly surprised, Mr. Adler, particularly to hear from you and some of your comments to indicate a recognition of some of the problems, for example, farmers have in dealing with the subject matter.

I'm sure you're familiar with the New York watershed case, aren't you and what I'm coming to grips with right now?

Mr. ADLER. Yes, sir.

Mr. BOEHLERT. So it's interesting, you're wearing one hat with this group here and you sometimes have to wear another hat with the National Resources Defense Council. I had to quickly check with counsel to make sure I heard you correctly and identified you correctly. I liked what you're saying because you're dealing in the real world. That's critically important.

I stand second to none in terms of my credentials in the environmental community and you may know some of the work I've done. I was just so pleased to hear what you're saying because some of the people in rural America are hurting and the last thing they need is some bureaucrat from out of town to come in and say, here's what you can't do. That's not the America they wanted to embrace.

One thing for Mr. Woodruff. I don't want to ask any detailed questions now because I'm confident that when I do read your publication, I'll learn an awful lot. I just want you to know there's some hope.

I couldn't agree more with you in talking about the 23 committees and subcommittees that have overlapping jurisdiction. We're engaged in a process right now of reinventing Congress. If Mr. Clinton wants to reinvent government, at least we're going to try to reinvent Congress. I'm sure that gives you some hope.

Mr. WOODRUFF. Yes.

Mr. BOEHLERT. It's long overdue. When you walk into Democratic caucus, which I don't do because I'm a Republican, you say hello, Mr. Chairman and everybody turns their head. We've got 280 various entities in the Congress, standing committees, select committees, joint committees. There are committees all over the place in essence just to create little fiefdoms for some of my friends in the majority party. There is hope there.

I like the idea of talking about flexibility. That word comes out all the time as I read your testimony. You give us an example of whether in a given watershed, it would be more effective in terms of improving water quality to spend \$20 million for improvements in municipal wastewater treatment plants or to spend that same amount helping to implement best management practices for agriculture. Those are questions we've got to deal with. Flexibility will be very helpful.

Just two days ago, as you know, Mr. Adler, the market for permits under the Clean Air Act has entered into, joined as we say. Maybe we ought to have some sort of permitting system dealing in this area that we could explore the possibility of developing. I'm not sure that's practical but I think it's something we ought to look at. You have to be more innovative as we approach these issues.

I just want to say thank you very much. Thank you for being patient, for waiting so long to finally appear here. I don't want you to think there is a lack of interest the Chairman and the ranking member and one of our good colleagues are the only three people here. There's a lot of interest in what you have to say and we're going to be following it very closely and view you as valuable resources.

I thank you for testifying and you'll be hearing more from us.

Mr. WOODRUFF. Thank you very much.

Mr. APPLGATE. Thank you, Mr. Boehlert.

Mr. Menendez.

Mr. MENENDEZ. Thank you, Mr Chairman.

I want to echo Mr. Boehlert's comment. This is one of the few days I don't have to conquer amoebic cell division and be at three or four different locations at the same time, so it gives me an opportunity to really listen to the testimony and participate.

I have a couple of questions concerning scientific standards, which you mention on page four of your statement. I represent the area in New Jersey along the Hudson River waterfront, including Port Newark in Elizabeth. A permit for maintenance dredging has been delayed nearly three years, partly because the standards for measuring the sediment changed several times during the process. The port generates \$20 billion of economic activity each year and

provides 180,000 jobs. All of this has been unnecessarily jeopardized.

How do we deal with changing scientific standards? When a permit application is filed, should the standard remain the same throughout the process? What if we change the standard and find a better standard in the middle of the process, what happens then? It seems to me we spend an inordinate amount of money testing and meeting one set of standards and then in the middle of the process we have a new scientific standard which is then applied to an application already in the middle of the process. There doesn't seem to be a lot of equity in that.

Mr. WOODRUFF. Do any of you want to comment on that? I think the difficulty is how do you marry in a good science and good administration. That's the difficulty. We do so awkwardly, inefficiently is the answer. Sometimes we've seen instances of overkill. We've got programs that have been put in place, limits have been established only to later find out that they were probably over-protective and we have spent money we wouldn't have needed to spend. In other instances, we have the flip side of that, so it's a balancing act to try to get it right.

Part of the problem is spending insufficient dollars on development of science. We are handicapping ourselves, we're wasting resources in the longer run by not spending sufficient resources on getting better science, better data, better information. That's part of it.

Another part is, we've got to balance the length of the permitting cycle. The cycles are too long. We learn things. A ten-year period is a long period of time today. Science is just moving too fast to have ten year periods. On the other hand, ten year periods is a very nice period of time in terms of the administrative costs to go around. So somewhere we've got to balance between those two extremes. Do you want to add anything to that?

Mr. ADLER. If I may, I think you raised a very important point in an era of rapidly evolving science. We need to improve the ability and expedite the ability of agencies to act on good, new science quickly. NRDC started pushing EPA to write effluent guidelines for the offshore oil and gas industry in 1979. That regulation was issued two months ago, 12 or 13 years after the law required them to write those regulations.

Scientists are learning more about the toxic effects of chemicals every day and yet, given the current bureaucratic red tape, it takes EPA years to get out a new standard which posits the sort of dilemma that you indicated. We need to think about how to streamline the bureaucratic processes that impede EPA from getting out new water quality standards and other regulations in less than 3, 4, 5 and sometimes 10 years.

Mr. MENENDEZ. Let me just take this question a step further. I agree with what you're saying, but in the middle or towards the end of a permitting process, a new standard comes up, but all the work that has been done is based upon a previously-accepted, scientific standard.

Would it be fair to say, as a rule, that we should follow the scientific standard clearly enunciated and agreed to by the administering agency and then if there is a new standard anywhere be-

tween the middle and the end of this process, that it will not be applicable to that particular permit because otherwise, we start the process again. It could be a never-ending process.

Mr. WOODRUFF. My personal point of view is it depends on the specific of the pollutant of concern and its side effects or its effects. In some instances, clearly, the course you're suggesting is an appropriate one because the next time around, it can be dealt with in the intervening time frame. The benefits to be gained by stopping the process and going back to home base, near home base and reconstituting the thing, the benefits aren't there. You'd do better to get the improvements in place that were ready to go.

In other instances, they may be relatively rare, but in other instances, we may learn something that is of a critical nature. So it's again very hard to have a generality. We could talk in terms of designing a rule that looks at the effects and if it passes a threshold of criticality, then you go back and revisit and redo. If it doesn't pass that threshold, you just keep going and you get it the next time around.

Mr. MENENDEZ. Could you expound on number eight, your policy? What that means, as well as when you had a definition for holistic and listening to who comprises your organization, I would hope the definition of holistic has no economic consequence in it whatsoever. Could you tell me how you came to that?

Mr. WOODRUFF. The question first was the guiding principles, number eight?

Mr. MENENDEZ. Yes. Exactly what do you mean by "ensure the beneficiaries of investments in water resources pay the full cost of the investment while contributors who impair fully internalize it."

Mr. WOODRUFF. Let me repeat that for the benefit of all here. Number eight says,

Protection efforts should be designed to ensure that beneficiaries of investments in water resources pay the full cost of these investments, while contributors to water quality impairment fully internalize the cost of their polluting activities.

The latter part of that is a long way of saying the polluter paid policy is what in his mind. The beginning statement of that is designed to ensure that people recognize that benefit from clean water, there is a cost to get that and they should be prepared to be contributing to it. If that's not clear, we'll try another pass.

Mr. MENENDEZ. If that's what you're saying, I understand.

Mr. SHEA. Economics represented a major area of discussion within the various committee meetings that were held as we developed these recommendations. I think the agricultural nonpoint source pollution control recommendations are a good example.

We talk about the need to change the way we farm, we talk about the need to go with best available technology and the application of practices, particularly in those impaired watersheds. We also at the same time recognize these farming operations must remain economically viable. Society as a whole benefits from the production of food and fiber here in the United States. The consumer has, in our recommendations, a responsibility to help share in some of those costs through technical assistance, cost-sharing commitments and other contributions. Economics I think are in our definition of holistic.

Mr. WOODRUFF. Does that address the second part of your question?

Mr. MENENDEZ. When I read a definition that says, "considers human health, water supply"—these are all laudatory goals—and "ecological concerns, and avoid simply transferring pollution from one medium to another," we all, I think, should share those goals. They all can probably be universally accepted. The question is what is the balance and the cost?

For example, in my district, I have the highest rate of unemployment in New Jersey, and one of the highest rates of unemployment in the Nation. We try to balance these concerns. We all want clean drinking water, water we can enjoy. New Jersey has a tremendous concern as it relates to its shore area, but there are balancing costs.

The concern I have is when we do not consider economic balancing. It seems to me that it is a simple Ross Perot-type of question, "do you want clean water?" Yes, of course we do. But at what cost? Then the balancing process comes out and people begin to decide, well, what are the priorities.

I read your holistic definition and I saw no comment as it relates to economics and I think people have to be faced with the realities of what the economics are to obtain certain social policies and that includes clean water.

Mr. WOODRUFF. I think there is agreement in general from the Water Quality 2000 organizations that economics is a part of the total, that if we don't have clean water in the long run, we don't have a strong economy. For sure, if we don't have a strong economy, there's no way to pay for clean water. It is a chicken and egg, which comes first. We've got to work at them both simultaneously.

Mr. ADLER. Let me give you one example in the report of how we considered economics returning to the nonpoint source area. We made it very clear that farmers need to do their share to clean up watersheds, but we want to do so in a way that's consistent with economically viable farming operations. So there are a number of specific ways in the report where we took economics into account.

I think it's very important not to consider jobs and water quality to be either-or tradeoffs. In addressing the more urban setting in which your constituents live, urban watershed restoration is an important area where we think we can both create jobs and create a sounder, safer environment for your constituents.

Urban watersheds have been sorely neglected around the country relative to some other waters. Yet, I'm sure you know that many of your constituents fish off the pier and eat fish that are contaminated by toxic pollutants from upstream. I'm sure you're aware that the habitat of the aquatic ecosystems in your district are far more degraded than in many other areas of the country. We ought to be targeting our efforts and our Federal funding to restore those urban watersheds in a way that can restore the health and vitality and economic base of your community as well as others around the country.

Mr. MENENDEZ. Thank you very much.

Thank you, Mr. Chairman, for your flexibility.

Mr. APPLEGATE. Thank you, Mr. Menendez.

I've heard a lot of people say that there should be less government involvement, that even local government perhaps could do a better job, the private sector could do a better job. I assume that

may be right. Efficient government, at best, is inefficient, but it's what we have because we live in a democratic society and we have people who run programs who don't fully understand the programs. We have people in Congress who pass laws on programs they don't fully understand. I realize that. We are just part of a group of people out there who were sent here to do a job. The beauty of it is that for 218 years it's worked.

We have congressional jurisdiction, we have bureaucratic jurisdiction, we have White House jurisdiction and we have the courts. What we always do here isn't necessarily the last word; it generally isn't because the bureaucracy usually comes around and defines what it is that we intended to do in the first place, doesn't always say what it is that we wanted to do. Otherwise, we might take our names off the bill, but that happens. Then, many times it ends up in the courts and comes out with an entirely different decision.

I guess what I'm saying is that we are trying our best to fully understand and to absorb all of this information we have. I think we are blessed too that we have good staff people behind us and those who have been working with the subject for a good many years and have been working for a number of the people who have testified in front of us.

They will, in their good wisdom, point us in the right direction and help us, as you will. God willing and the creek don't rise, we'll come through with something that will be reasonably acceptable to everybody and we hope that will be the case.

This subcommittee will recess until tomorrow morning at 9:30 a.m. when we will hear testimony from local governmental organizations.

Thank you very much.

[Whereupon, at 1:00 p.m., the subcommittee was recessed, to reconvene at 9:30 a.m. on Thursday, April 1, 1993.]





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**Testimony of  
The Council of Infrastructure Financing Authorities  
Before the  
House Water Resources & Environment Subcommittee  
on Reauthorization of the Clean Water Act  
March 31, 1993**

Mr. Chairman and members of the Committee, I am Terry Agriss, President of New York State's Environmental Facilities Corporation. I am pleased to appear before you today to testify both in that capacity and as President of the Council of Infrastructure Financing Authorities (CIFA). CIFA is a national organization of State and local authorities with the mission of financing public infrastructure facilities. Most of our State members manage at least the financial component of the State Revolving Loan Funds (SRFs) for wastewater treatment, and as such, are vitally involved in the current and future success of the SRF program.

My testimony will address Title VI of the Clean Water Act and the SRF provisions. Briefly, we support a reauthorization of this program which, from our experience as State managers, is working extremely well as an efficient and economic mechanism to provide low-cost financing of public wastewater treatment needs. Clearly, the SRFs have fulfilled the vision which Congress had when it created the loan funding mechanism in 1987.

We urge the Committee and the Congress to extend the programmatic and financing authority for Title VI which, with some minor legislative adjustments, can address the nation's major needs for wastewater funding well into the next century. In support of this assertion, there are several points that I would like to make to the Committee.

**State Revolving Funds: A Success Story**

In creating the State Revolving Loan Funds in 1987, the Congress made a bold and formative departure from the traditional grant approach of federal assistance. There was wisdom in this change. With five years experience, we are pleased to say that the SRF program is working and working well. All 50 States and Puerto Rico have met the requirements of Title VI of the 1987 Act, having passed the requisite laws, provided the necessary matching funds, and set up the administrative and financial management mechanisms to effectively put the program in place. All of these State programs are now fully operative, making low and no interest loans to communities to meet their wastewater financing needs.

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A survey undertaken for CIFA by the Ohio Water Development Authority of all State SRF programs found that as of June 30, 1992, States had received nearly \$6 billion in federal capital grants for the SRFs. This federal investment, together with \$1.4 billion in State matching funds and over \$5 billion created by leveraging the individual State Funds, has formed a total lending pool of \$10.7 billion from which 1,363 project loans have been made. It is noteworthy that the federal contribution has been more than doubled by state match and leveraging of the funds.

The survey further showed that loans were being made for a range of eligible project needs, including correction of combined sewer overflows, storm water and non-point source controls, in addition to the more traditional sewage treatment projects. The SRFs are adaptable and responsive to meeting new priority needs for financing and States are being innovative in their application.

### Advantages of Loan Financing

From the state and national perspective, there is a definite advantage to loans over project grants. While we appreciate that some municipalities would prefer grant assistance over a subsidized loan, and that you may be hearing this from your constituents and colleagues, there are sound reasons, in terms of economy of national expenditure and efficiency of project financing, for Congress to maintain the SRF funding approach and resist entreaties to return to the grant approach for federal support. Most important:

**Loans Provide Assistance to More Projects:** The combination of the state match, the debt service payments and the additional funds that can be made available by leveraging, creates a loan pool capable of financing a much larger share of project needs than would a grant program at a federal share of 55% or higher.

For example, if the SRF were funded at \$2 billion a year for the next 12 years with the existing 20% state matching requirement and a leverage factor of 2:1 for 60 percent of the Funds, a loan pool would be created capable of financing \$133 billion in projects over the next 20 years. The same amount of federal contribution directed to grants would finance only \$44 billion in wastewater projects – less than one third of the amount that could be financed through the loan program. Moreover, the loan pool will continue to grow after federal contributions stop, whereas the grant assistance program stops with the last federal contribution. With a dimension of estimated need for wastewater funding in excess of \$100 billion and growing, it seems clear that responsible federal programs should be aimed at sustaining and enhancing the loan program. A graphic depiction of this SRF scenario, is attached to my testimony.

**Loans Help Control the Federal Deficit:** The permanent funding base provided by the SRF eventually diminishes the demand for future federal contribution. Loan programs begin revolving money for new projects almost immediately and can reduce the structural deficit by at least \$2 billion annually when the SRF is fully capitalized.

**Loans are More Efficient:** Experience with the SRF, thus far, has demonstrated their relative efficiency as compared to grants. Greater local responsibility under a loan program results in lower project costs, encouraging communities to build to meet their actual needs rather than building to meet grant eligibility. For example, in 1989, the Town of West Monroe in central New York State built a low pressure sewer system and treatment facility using \$650,000 in SRF loan proceeds and a \$45,000 state grant. By contrast, a few years earlier, the same town, anticipating a Title II grant, planned a facility to achieve the same environmental purpose which would have cost \$1,250,000. The record is replete with such examples.

Loans, which are more efficient to manage from a federal and state perspective, significantly reduce the manpower requirements for federal supervision that was associated with grants administration. Since 1987, total staffing in EPA's Wastewater and Enforcement Compliance program has been reduced by more than 100 FTEs, reflecting in part the shift from grants to loan management. Reductions in the federal workforce are not an insignificant consideration given present budget constraints.

**Loans Fund Projects Faster:** Because SRFs can fund the total cost of most projects, they remove the need for communities to raise the additional financing necessary to cover their matching share of the grant plus the non-grant eligible components of the project. Moreover, with full availability of financing, projects are being completed up to 50% faster than under the grant program. There is no waiting on grant priority lists or for EPA grant reviews. There is an old adage in the construction business that "time is money," and expedited project construction leads to substantial savings.

Also, loan financed construction occurs more quickly because the loan program does not penalize communities that start their projects in advance of a loan. Since the SRFs allow loan refinancings, municipalities are encouraged to begin the design and construction phase when they are ready. Costs of planning and design can be refinanced under the SRF program, so the borrower does not risk forfeiting future financial assistance by beginning the process early. Since many SRF's have adopted a policy of immediate loan availability, there is no need for a borrower to arrange any separate interim financing for the project, avoiding additional financing costs. States with large needs have been able to leverage their available loan funds and are operating under a policy that any project can be financed when it is ready. Leveraging can double or triple available assistance under the loan program.

#### **Amendments to Title VI**

In addition to reauthorizing the SRFs, a few changes are needed in the Title VI provisions to make the program more efficient to manage. Specifically, we recommend the following:

**Eligibility of Land For SRF Financing:** Extension of funding eligibility for land acquisition associated with wastewater collection and treatment is important. With present limited eligibility for land acquisition, communities receiving SRF loans now

have to find other sources of financing for project related land purchases, causing complications and delays in initiating project construction. Broadened eligibility for land becomes especially important with the increased emphasis on correction of CSOs and non-point source problems where additional lands may be needed for run-off retention.

**Administrative Costs:** Cost of administering the Fund will continue and should be a legitimate use of a small percentage of each State's Fund, rather than being tied to a diminishing and eventually disappearing federal contribution. Allowing the use of a small percentage of the total value of the Fund for purposes of administering the SRF annually for the life of the program is a priority state management issue.

**Extended Loan Payback Period:** Under certain circumstances the State should have the flexibility to extend the loan payback period beyond the present 20 years. We would recommend reserving this benefit for special economic hardship cases tied to the project life rather than a specific number of years.

**Loan Principal Subsidy:** CIFA supports an amendment that would permit communities to reduce their principal payments under certain conditions. Specifically, we believe that a partial subsidy of loan principal would be the most effective and efficient means of assisting small, economically disadvantaged communities. This could be achieved through a mechanism similar to that used for leveraged loans. A portion of a state's SRF could be set aside in an earmarked reserve and the interest earnings on the reserve could be used to pay a part of a community's loan principal. This mechanism provides disadvantaged communities with necessary additional assistance, but does not invade the corpus of the revolving fund, so that the value of the fund is not diminished as would be the case with grants. Furthermore, CIFA recommends that even with a "principal subsidy," a community should be required to repay some portion of its loan, commensurate with its ability to pay. Repayment of a loan, even at a reduced amount, ensures that proper incentives for efficiency of project design and operation are preserved.

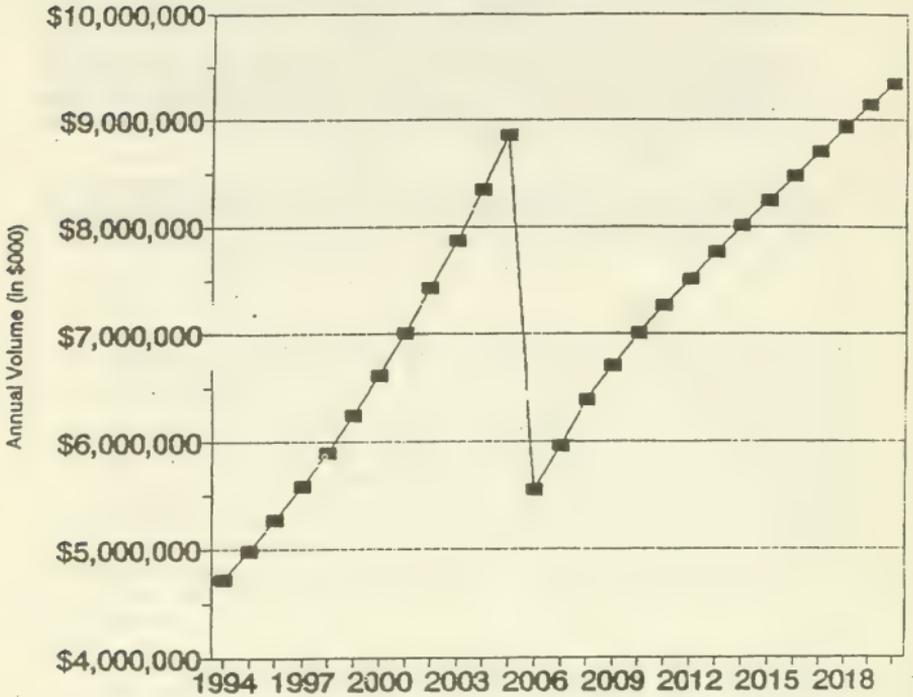
**Title II Provisions:** CIFA supports the elimination of the grant related requirements in Title II of the Clean Water Act, which are now applicable to "equivalency" projects equal in dollar amount to a State's annual Capitalization Grant. These provisions, which include those defined in 201(b), 201(g)(1), 201(g)(2), 201(g)(3), 201(g)(5), 201(g)(6), 201(n)(1), 201(o), 204(a)(1), 204(a)(2), 204(b)(1), 204(d)(2), 211 and 218, are either redundant or extraneous to loan arrangements under the SRF, and in some cases add months and even years to the time required to move a project to construction.

**Water Quality Infrastructure Needs Assessment:** Authorization for an expanded needs assessment of all potentially eligible wastewater facilities to provide improved data on infrastructure financing needs is essential. This is an important component of the nation's information base on infrastructure inventory and needs and a measure against which to assess progress and future program direction.

**Flexibility in SRF Management:** Efficiencies can often be achieved by the application of sound financial management practice. Unfortunately, in some cases these practices are prohibited by EPA regulations. For example, regulations that require all loan repayments to remain within the State's revolving fund prohibit States that have independent wastewater funding programs from combining their state and SRF loans in a single loan pool. This limits the capacity of the State to combine the funds for the purposes of more efficiently leveraging the funds. We recommend that the Congress instruct EPA to provide maximum flexibility to the States in the management of the SRFs, in keeping with sound financial management practices.

We hope that these observations will be useful to you and the members of the Committee as you work to fashion the provisions that will reauthorize the nation's clean water law, and thank you for this opportunity to testify.

### Annual Loan Obligations for SRF Program (Assumes Funding Ends in 2005)



- 1) Annual federal appropriation of \$2 billion, ending in 2005
- 2) Only states that are currently leveraging or expected to leverage soon are included in the leveraging program
- 3) Sixty percent of the program will be leveraged at two times the capitalization amount
- 4) Forty percent of the program will be direct loans at two percent interest rates
- 5) All loan programs are assumed to have a 1% return on equity
- 6) Includes recycling of SRF funds from 1990-93 capitalization appropriations

Prepared by the N.Y. State Environmental Facilities Corporation

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**Statement of**

**Dennis Hemmer**

**Director**

**Wyoming Department of Environmental Quality**

**before the**

**Committee on Public Works and Transportation**

**Subcommittee on Water Resources**

**United States House of Representatives**

**on**

**Clean Water Act Reauthorization**

**March 31, 1993**

GOOD MORNING, CHAIRMAN APPLGATE AND MEMBERS OF THE SUBCOMMITTEE. I AM DENNIS HEMMER, DIRECTOR OF THE WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY. I AM HERE TODAY ON BEHALF OF BOTH THE NATIONAL GOVERNORS' ASSOCIATION AND THE STATE OF WYOMING.

THE NATIONAL GOVERNORS' ASSOCIATION HAS ADOPTED EXTENSIVE POLICY ON THE CLEAN WATER ACT. IN LIGHT OF OUR LIMITED TIME, I WILL DISCUSS ONLY PRIORITY RECOMMENDATIONS CONCERNING STATE REVOLVING FUNDS, NONPOINT SOURCE POLLUTION CONTROL, STORMWATER, AND WETLANDS PROTECTION. HOWEVER, I HAVE ATTACHED A COPY OF THE COMPLETE NGA WATER RESOURCES POLICY TO MY TESTIMONY AND REQUEST THAT IT BE INCLUDED IN THE HEARING RECORD.

THE CHALLENGE YOU HAVE BEFORE YOU IN REAUTHORIZING THE CLEAN WATER ACT IS TO CRAFT A LAW THAT ADDRESSES THE PROBLEMS OF THE NATION WHILE ALLOWING FLEXIBILITY FOR EACH STATE TO ADDRESS ITS SPECIFIC CONCERNS. BEFORE I DISCUSS THE GOVERNORS' RECOMMENDATIONS, I WANT TO MAKE A GENERAL PLEA FOR ATTENTION TO STATE RESOURCE CONSTRAINTS AND ALLOWANCE FOR FLEXIBILITY TO USE LIMITED RESOURCES IN THE MOST COST EFFECTIVE MANNER.

I REPRESENT THE LEAST POPULOUS STATE IN THE NATION. WHILE WE SHARE MANY OF THE PROBLEMS OF THE OTHER STATES, WE HAVE ALSO BEEN SPARED MANY PROBLEMS. TODAY, WYOMING, LIKE MOST OTHER STATES, INDEED THIS NATION, IS STRUGGLING TO FIND RESOURCES TO SUPPORT ESSENTIAL PROGRAMS. AS YOU HAVE NO DOUBT HEARD REPEATEDLY, WE DO NOT NEED MORE UNFUNDED MANDATES. WE DO NEED TO FOCUS ON AREAS THAT POSE THE GREATEST RISK TO PUBLIC HEALTH AND THE ENVIRONMENT. ALLOW STATES TO TARGET RESOURCES TO PRIORITY CONCERNS AND DON'T REQUIRE STATES TO EXPEND RESOURCES WHERE THEY ARE NOT NEEDED.

#### SRF FUNDING

THE GOVERNORS' RECOMMENDATION CONCERNING FUNDING IS PERHAPS THE MOST IMPORTANT ELEMENT OF THE NGA POSITION. CONTINUED PROGRESS TOWARD MEETING THE GOALS OF THE CLEAN WATER ACT DEPENDS ON ADEQUATE FUNDING OF WATER PROGRAMS.

CURRENT FUNDING LEVELS ARE CLEARLY INADEQUATE IN THE FACE OF PROJECTED NEEDS. THE GOVERNORS ADOPTED POLICY IN FEBRUARY RECOMMENDING INCREASED FUNDING TO \$5 BILLION PER YEAR THROUGH THE YEAR 2000 IN FEDERAL CAPITALIZATION GRANTS TO THE STATE REVOLVING LOAN FUNDS. THE GOVERNORS HAVE RECENTLY COMMUNICATED TO THE PRESIDENT AND THE APPROPRIATIONS COMMITTEES THAT IN NO CASE SHOULD APPROPRIATIONS FALL UNDER \$2 BILLION FOR WASTEWATER AND \$1 BILLION FOR DRINKING WATER. I HAVE ATTACHED A COPY OF THIS NGA LETTER TO MY TESTIMONY AND ASK THAT YOU INCLUDE IT IN THE HEARING RECORD.

NOTE THAT \$5 BILLION PER YEAR WAS THE SUM ORIGINALLY AUTHORIZED AND APPROPRIATED FOR WASTEWATER TREATMENT INFRASTRUCTURE UNDER THE CLEAN WATER ACT OF 1972, PRIOR TO THE INTRODUCTION OF COSTLY NEW MANDATES IMPOSED ON STATES BY THE 1987 CLEAN WATER ACT AMENDMENTS. CONSIDERING THE EFFECTS OF INFLATION, THE ANNUAL FEDERAL COMMITMENT HAS BEEN REDUCED BY MORE THAN HALF OVER THE LAST TWENTY YEARS. AT THE SAME TIME, THE PROGRAM IS MUCH MORE EXPENSIVE THAN IT WAS TWENTY YEARS AGO.

THE GOVERNORS SUPPORT THE CONTINUED USE OF STATE REVOLVING LOAN FUNDS (SRFS) AS THE PRIMARY SOURCE OF WASTEWATER INFRASTRUCTURE FINANCING. NGA OPPOSES FINANCING THROUGH DIRECT FEDERAL CONSTRUCTION GRANTS.

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THE SRF PROGRAM IS AN EXCELLENT EXAMPLE OF EFFICIENT GOVERNMENT INVESTMENT. SRFs PROVIDE SUSTAINABLE LONG-TERM FUNDING, HAVE LOW ADMINISTRATIVE COSTS AND A 50 PERCENT FASTER PAYOUT RATE THAN CATEGORICAL GRANTS, AND PROVIDE INCENTIVES TO LOCAL GOVERNMENT TO REDUCE COSTS AND DEVELOP APPROPRIATE USER FEE SYSTEMS. REVOLVING AT THE STATE LEVEL, SRFs HAVE A MULTIPLIER EFFECT THAT CAN LEVERAGE TWO TO FIVE TIMES THE ORIGINAL INVESTMENT THROUGH BOND ISSUANCE AND LOAN REPAYMENT. IN CONTRAST, DIRECT FEDERAL GRANTS DISCOURAGE LOCAL INITIATIVE AND MAY REWARD NONCOMPLIANCE.

WHILE RECOMMENDING THE SRFs AS THE PRIMARY SOURCE OF WATER INFRASTRUCTURE FINANCING, THE GOVERNORS RECOGNIZE THE SPECIAL PROBLEMS OF SMALL COMMUNITIES AND THAT THE LOW INTEREST LOANS CURRENTLY AVAILABLE THROUGH THE SRFs DO NOT PROVIDE ADEQUATE ASSISTANCE TO SOME SMALL COMMUNITIES. HOWEVER, THE GOVERNORS BELIEVE THAT SMALL COMMUNITY NEEDS SHOULD BE ADDRESSED THROUGH SPECIAL ALLOWANCES IN THE SRF PROGRAM RATHER THAN THROUGH A SEPARATE GRANT PROGRAM. NGA RECOMMENDS FOUR PROVISIONS TO FACILITATE SMALL COMMUNITY PARTICIPATION IN THE SRF PROGRAM: SPECIAL ASSISTANCE THROUGH PRINCIPAL SUBSIDY PROGRAMS IN WHICH STATES USE SRF INTEREST EARNINGS TO SUBSIDIZE SMALL COMMUNITY PROJECTS; FORTY-YEAR LOAN REPAYMENT PERIODS; INCLUSION OF EXPENSES ASSOCIATED WITH THE PURCHASE OF LAND, EASEMENTS, AND RIGHTS OF WAY AS ELIGIBLE COSTS; AND ALLOWANCE FOR THE USE OF SRF ADMINISTRATION FUNDS FOR TECHNICAL ASSISTANCE TO SMALL COMMUNITIES.

I HAVE READ RECENTLY OF THE DEBATES ABOUT WHETHER THE STATE REVOLVING FUNDS FOR SAFE DRINKING WATER SHOULD BE INCLUDED IN THE CURRENT SRF, OR ESTABLISHED AS A SEPARATE FUND. WHILE THE GOVERNORS HAVE NOT TAKEN A POSITION ON THIS ISSUE, ON BEHALF OF WYOMING, I URGE YOU TO COMBINE THE TWO. WHILE I RECOGNIZE THE DIFFICULTY OF COMBINING FUNDS ADDRESSING TWO SEPARATE ACTS, EACH STATE NEEDS FLEXIBILITY TO ADDRESS ITS OWN SPECIFIC PROBLEMS. IN WYOMING, WE HAVE ADDRESSED OUR WASTEWATER NEEDS FOR THE NEAR FUTURE; HOWEVER, WE HAVE DRINKING WATER NEEDS PROJECTED TO COST AS MUCH AS \$250 MILLION.

I URGE YOU TO OVERCOME JURISDICTIONAL DIFFICULTIES AND TO IGNORE PROTECTIONIST CRIES FROM INDIVIDUAL PROGRAMS AND TAKE A COMPREHENSIVE APPROACH THAT DELIVERS THE MOST NEEDED SERVICES TO OUR CITIZENS.

#### NONPOINT SOURCE POLLUTION CONTROL

REDUCING NONPOINT SOURCE POLLUTION DEMANDS IN ESSENCE A SOCIETAL CHANGE. NONPOINT POLLUTION IS CUMULATIVE AND DIFFICULT TO QUANTIFY. A SUCCESSFUL NONPOINT SOURCE PROGRAM (NPS) IS A POLLUTION PREVENTION PROGRAM THAT MUST INVOLVE CONVINCING THE PUBLIC TO CHANGE WAYS OF DOING THINGS THAT MAY DATE BACK GENERATIONS. THEREFORE, THE PROGRAM MUST BE MORE EDUCATIONAL THAN PRESCRIPTIVE.

A MAJOR PART OF NONPOINT CONTROL REVOLVES AROUND MANAGING LAND USES. LAND USE DECISIONS MUST ACCOUNT FOR LOCAL GEOGRAPHICAL AND DEMOGRAPHIC SITUATIONS. THE PROBLEMS WE ARE TRYING TO ADDRESS ON THE PLAINS OF WYOMING ARE NECESSARILY DIFFERENT FROM THOSE OF MORE POPULOUS AREAS. THE GOVERNORS STRESS THAT STATES MUST RETAIN FLEXIBILITY TO TAILOR NONPOINT MANAGEMENT MEASURES TO LOCAL CONDITIONS AND OPPOSE PRESCRIPTIVE FEDERAL DEFINITIONS OF SPECIFIC MANAGEMENT MEASURES.

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THE GOVERNORS BELIEVE THE CURRENT REAUTHORIZATION SHOULD BUILD ON THE EXISTING SECTION 319 PROGRAM AND OFFER SUGGESTIONS CONCERNING FUNDING, ACHIEVING MANAGEMENT GOALS, AND CONSISTENCY OF FEDERAL ACTIVITIES WITH STATE MANAGEMENT PLANS.

FIRST, INSUFFICIENT FUNDING IS CLEARLY A CRITICAL PROBLEM FACING STATE PROGRAMS. SINCE 1987, ONLY \$190 MILLION HAD BEEN MADE AVAILABLE TO SUPPORT THE SECTION 319 PROGRAM. TO PUT THIS IN PERSPECTIVE, CONSIDER FOR EXAMPLE THE JOINT EPA-USDA RURAL CLEAN WATER PROJECT. THIS DEMONSTRATION PROJECT SPENT \$70 MILLION TO TREAT ONLY TWENTY-ONE LOCAL WATERSHEDS. ALTHOUGH NO ONE KNOWS THE EXTENT OF THE NATION'S NPS POLLUTION PROBLEM, THERE ARE PROBABLY THOUSANDS OF WATERSHEDS REQUIRING SIMILAR LEVELS OF TREATMENT.

PROGRAM FUNDING MUST BE STABLE AS MANY PROJECTS WILL INVOLVE MULTI-YEAR EFFORTS. THE STATES AND PROJECT PARTICIPANTS MUST BE ABLE TO DEPEND ON A CONSISTENT LEVEL OF FUNDING. WE HAVE TOO MANY EXAMPLES IN WYOMING OF GOOD PROJECTS THAT FAILED BECAUSE THEY WEREN'T CARRIED TO FRUITION DUE TO LACK OF FUNDING. WORSE YET, WE HAVE TOO MANY INDIVIDUALS AND GROUPS JADED BECAUSE THEY WERE INVOLVED IN A PROJECT THAT WASN'T COMPLETED.

SECOND, THE PROGRAM NEEDS MORE STRUCTURE. NOTE THAT I SAY STRUCTURE, NOT PRESCRIPTION. CURRENTLY, THE GUIDANCE IN THE NONPOINT SOURCE PROGRAM IS EXTREMELY VAGUE. OTHER THAN INFORMING US THAT WE ARE TO PREVENT NONPOINT SOURCE POLLUTION, THE GUIDANCE IS OF LITTLE HELP IN ACHIEVING OUR GOALS.

NGA POLICY RECOMMENDS DEVELOPMENT OF A FRAMEWORK INVOLVING MORE CLEARLY ARTICULATED MANAGEMENT GOALS, A PROCESS TO DEFINE PROGRESS, AND SOME MECHANISM TO REWORK PLANS THAT DO NOT MEET EXPRESSED GOALS.

STATES SHOULD ESTABLISH MORE CLEARLY DEFINED GOALS FOR NPS PLANS BASED ON EITHER MEASURES OF WATER QUALITY OR MEASURES OF PROGRAM ADMINISTRATION SUCH AS NUMBER OF BEST MANAGEMENT PRACTICES IN PLACE. STATES SHOULD IDENTIFY BENCHMARKS TO MEASURE PROGRESS TOWARD MEETING SPECIFIED GOALS. IF STATE PROGRAMS DO NOT PRODUCE RESULTS, STATES SHOULD BE REQUIRED TO ADJUST SECTION 319 PLANS.

STATES NEED HELP FROM EPA IN DEFINING A CLEAR DIRECTION FOR THE PROGRAM. EPA SHOULD ASSIST STATES IN DEFINING GOALS AND IN MEASURING PROGRESS. HOWEVER, I EMPHASIZE THAT EPA SHOULD NOT MANDATE USE OF SPECIFIC BEST MANAGEMENT PRACTICES (BMPS). BMPS MUST BE TAILORED TO LOCAL CONDITIONS. IN MANY INSTANCES, THEY WILL BE IN LARGE PART A COMPILATION OF PRACTICES ALREADY DEVELOPED BY FEDERAL, STATE, AND LOCAL AGENCIES.

FINALLY, THE GOVERNORS RECOMMEND A CERTIFICATION PROCESS TO ENSURE THAT FEDERAL ACTIVITIES ARE CONSISTENT WITH STATE NPS PLANS. APPROPRIATE FEDERAL AGENCIES SHOULD HAVE INPUT INTO DEVELOPMENT OF BEST MANAGEMENT PRACTICES, AND SHOULD BE REQUIRED TO IMPLEMENT THEM AS PART OF THEIR LAND USE PLANNING.

#### STORMWATER

THE GOVERNORS AGREE THAT REDUCING STORMWATER CONTAMINATION IS IMPORTANT IN ACHIEVING THE FISHABLE, SWIMMABLE GOAL OF THE CLEAN WATER ACT. THE GOVERNORS STRESS, HOWEVER, THAT THE LAW MUST RECOGNIZE THE DIFFERENCES BETWEEN

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STORMWATER AND TYPICAL POINT SOURCE DISCHARGES, AND THE DIFFICULTY IN USING THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM, OR NPDES PROGRAM, IN ADDRESSING STORMWATER.

ALTHOUGH IT IS DISCHARGED AT DISCRETE OUTFALLS, STORMWATER IS REALLY NONPOINT POLLUTION. THE REGULATION OF POINT SOURCE DISCHARGES IS BASED ON KNOWN FLOWS, PROCESSES, PLANT PERFORMANCES, AND TECHNOLOGIES NOT AVAILABLE FOR STORMWATER.

THE GOVERNORS BELIEVE THAT THE CLEAN WATER ACT SHOULD CLEARLY AUTHORIZE THE USE OF SITE-SPECIFIC BEST MANAGEMENT PRACTICES TO CONTROL STORMWATER. BECAUSE STORMWATER IS GENERATED FROM A VARIETY OF SOURCES AND ACTIVITIES, BEST MANAGEMENT PRACTICES ARE THE MOST EFFECTIVE CONTROLS.

THE GOVERNORS ALSO BELIEVE THAT THE CLEAN WATER ACT SHOULD ALLOW STATES AUTHORITY TO USE ENFORCEABLE NONPERMIT APPROACHES TO CONTROL STORMWATER. THE MAGNITUDE OF THE BURDEN THAT STORMWATER PERMITTING PROGRAMS CAN HAVE ON THE STATES CANNOT BE OVERSTATED. IN WYOMING, WE CALCULATED THAT ISSUING INDIVIDUAL NPDES PERMITS TO ALL STORMWATER SOURCES WOULD MULTIPLY THE NUMBER OF PERMITS WE ISSUE TEN-FOLD. WE WOULD NEED TEN TIMES AS MANY STAFF AND ADDITIONAL FUNDING. USING GENERAL PERMITS AND BEST MANAGEMENT PRACTICES, WE WERE ABLE TO DO IT WITH EXISTING STAFF.

THE GOVERNORS BELIEVE THAT STATES MUST HAVE THE AUTHORITY TO PRIORITIZE STORMWATER CONTROL ACTIVITIES BASED ON RISK.

FINALLY, NGA RECOMMENDS A THREE-YEAR EXTENSION OF THE MUNICIPAL STORMWATER COMPLIANCE DEADLINE.

#### WETLANDS

WETLANDS IN THEIR NATURAL STATE SERVE IMPORTANT ECOLOGICAL AND SOCIOECONOMIC FUNCTIONS THAT ARE DIFFICULT TO REPLACE. DEVELOPMENT OF A WORKABLE NATIONAL POLICY TO PROMOTE CONSERVATION AND WISE MANAGEMENT OF THIS RESOURCE IS OF GREAT CONCERN TO THE GOVERNORS.

NGA POLICY SUGGESTS THAT NATIONAL POLICY SHOULD REFLECT SEVERAL IMPORTANT PRINCIPLES. TODAY I WOULD LIKE TO DRAW ATTENTION TO SIX OF THESE PRINCIPLES.

FIRST, THE GOVERNORS BELIEVE THAT LAND USE REGULATION SUCH AS THE WETLANDS PROGRAM IS MOST EFFECTIVELY ADMINISTERED AT THE STATE AND LOCAL LEVEL, AND THAT THE WETLANDS REGULATORY PROGRAM SHOULD FACILITATE STATE INVOLVEMENT THROUGH EITHER FULL STATE ASSUMPTION OR STATE PROGRAM GENERAL PERMITS.

THE GOVERNORS SUGGEST SEVERAL MEASURES TO ENCOURAGE MORE STATES TO ASSUME THE PROGRAM. THE GOVERNORS BELIEVE THAT:

1. Partial assumption -- defined as either assumption of the section 404 program in a limited geographical area, or assumption of some limited portion of section 404 regulatory responsibility -- should be an option for states.
2. Each state that assumes the program should negotiate a method of federal oversight appropriate to its circumstances. Oversight in the form of an annual program audit, eliminating EPA's authority to veto individual state permits, should be an option.

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3. The federal government should establish clear goals for wetlands protection, and states should have some flexibility in designing programs to achieve these goals. Each state that assumes the section 404 program should negotiate specific program components appropriate to its circumstances.

THE GOVERNORS ALSO SUPPORT AN AMENDMENT TO THE CLEAN WATER ACT TO CLEARLY AUTHORIZE THE USE OF CORPS OF ENGINEERS-ISSUED STATE PROGRAM GENERAL PERMITS THAT SUBSTITUTE STATE PROGRAM AUTHORITY FOR THE FEDERAL PROGRAM. STATE PROGRAM GENERAL PERMITS ARE AN ALTERNATIVE METHOD FOR STATES TO ASSUME PARTIAL RESPONSIBILITY FOR WETLANDS REGULATION.

SECOND, THE WETLANDS REGULATORY PROGRAM MUST RECOGNIZE REGIONAL VARIANCE IN THE WETLANDS RESOURCE. THE NATURE OF THE WETLAND RESOURCE AND OF LAND USE PATTERNS VARIES DRAMATICALLY IN DIFFERENT PARTS OF THE COUNTRY AND MANAGEMENT POLICIES SHOULD BE TAILORED TO THESE VARIATIONS.

THIRD, THE GOVERNORS BELIEVE A DEFINITION OF WETLANDS AND DELINEATION CRITERIA THAT ARE SCIENTIFICALLY VALID, LEGALLY DEFENSIBLE, AND WORKABLE IN THE FIELD IS THE FOUNDATION OF A PRACTICABLE PROTECTION AND MANAGEMENT PROGRAM.

FOURTH, THE GOVERNORS ASSERT THAT REGULATORY POLICIES SHOULD INCLUDE A SEQUENTIAL APPROACH TO MITIGATION THAT BEGINS WITH AVOIDANCE OF ADVERSE EFFECTS ON WETLANDS AND MINIMIZATION OF UNAVOIDABLE ADVERSE EFFECTS, AND ALLOWS THE USE OF COMPENSATORY MITIGATION AS A LAST RESORT. AT THE SAME TIME, HOWEVER, POLICY MUST ALLOW REGULATORS FLEXIBILITY TO ACT RATIONALLY WEIGHING SOCIOECONOMIC FACTORS.

FIFTH, FEDERAL WETLANDS PROGRAMS SHOULD INVOLVE A SUBSTANTIAL RESEARCH COMPONENT TARGETED IN PARTICULAR TOWARD DEVELOPING IMPROVED METHODS OF CREATING AND RESTORING WETLANDS AND ACCURATE METHODS OF ASSESSING WETLAND FUNCTIONS AND VALUES. WE NEED BETTER SCIENCE ON THESE IMPORTANT QUESTIONS.

SIXTH, THE REGULATORY PROGRAM SHOULD BE COMPLEMENTED WITH A NONREGULATORY PROGRAM. THE GOVERNORS EMPHASIZE THE VALUE OF WETLANDS RESTORATION AND CREATION THROUGH COOPERATIVE INITIATIVES BETWEEN GOVERNMENT AND THE PRIVATE SECTOR. THE NORTH AMERICAN WATERFOWL MANAGEMENT PLAN, ADMINISTERED BY THE FISH AND WILDLIFE SERVICE, AND WETLANDS CONSERVATION PROVISIONS OF THE 1990 FOOD SECURITIES ACT ARE SUCCESSFUL EXAMPLES OF SUCH INITIATIVES.

IN ADDITION, NGA POLICY ADDRESSES SOME SPECIFIC MANAGEMENT ISSUES INCLUDING WETLAND CLASSIFICATION, MITIGATION BANKING, REGULATION OF MANAGED WETLANDS, AND COMPENSATION OF PRIVATE PROPERTY OWNERS.

- o NGA OPPOSES IMPOSITION OF A NATIONAL CLASSIFICATION SYSTEM, BUT CLASSIFICATION SYSTEMS TAILORED TO INDIVIDUAL WATERSHEDS COULD BE USEFUL IN DEVELOPING REGIONAL AND LOCAL RESOURCE MANAGEMENT PLANS.
- o THE GOVERNORS BELIEVE MITIGATION BANKING MAY BE A USEFUL TOOL GIVEN CAREFUL MANAGEMENT. IN WYOMING WE HAVE THE TECHNICAL EXPERTISE AND RESOURCES TO INITIATE, DEVELOP AND ADMINISTER WETLAND BANKS. HOWEVER, OUR EFFORTS TO DATE HAVE BEEN FRUSTRATED BY A LACK OF COORDINATED AND CONSISTENT FEDERAL POLICY. FEDERAL POLICY ON BANKING COULD ALLOW INFRASTRUCTURE IMPROVEMENTS TO PROCEED WHILE PROVIDING EFFECTIVE AND EFFICIENT WETLANDS MITIGATION.

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- o NGA POLICY STATES THAT WETLANDS CREATED AND MAINTAINED SOLELY FOR USE IN RESOURCE MANAGEMENT, FOR EXAMPLE, FOR STORMWATER ABATEMENT OR WATERFOWL PRODUCTION, SHOULD BE EXEMPT FROM REGULATION UNDER SECTION 404.
- o FINALLY, THE GOVERNORS OPPOSE MANDATORY COMPENSATION OF PROPERTY OWNERS FOR WETLANDS REGULATION. THIS ISSUE IS APPROPRIATELY ADDRESSED IN THE COURTS, WHICH HAVE ESTABLISHED SOUND CRITERIA FOR DETERMINING WHEN A REGULATORY TAKING HAS OCCURRED.

THAT CONCLUDES MY WRITTEN TESTIMONY. MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE, THANK YOU FOR THE OPPORTUNITY TO TESTIFY TODAY. I AM HAPPY TO ANSWER ANY QUESTIONS AT THIS TIME.

**D-6. WATER RESOURCE MANAGEMENT****6.1 Principles**

- 6.1.1 A Systematic Approach to Management.** Historically, this nation has approached water resources as isolated and categorical, with programs designed specifically for certain waters depending upon where they are found. Now we know that our water resources are part of an interrelated hydrologic and environmental system that demands systematic management. The Governors believe the future demands a new model for managing water resources, based on well-defined geographic units such as basins or watersheds, that recognizes all the interconnections within the watershed that define the hydrologic cycle in that area, including surface and groundwaters as well as wetlands. The management of any watershed should reflect all of the things that make it unique, including specific precipitation patterns, topography, soil and geological characteristics, and land use.

A systems management approach would involve the development and operation of a comprehensive water resource management program -- though ultimately it need not be limited to water resources -- within the specific geographic area encompassing the basin or watershed. Components of such a comprehensive program would include water supply, water quality, water conservation, flood protection, land use, and protection of fish and wildlife resources.

There are few, if any, significant scientific barriers to the transition from our current collection of categorical programs to this kind of comprehensive, systems-based approach to water resource management. However, the Governors recognize that there are significant institutional obstacles, and that the new model needs to be developed in an evolutionary fashion. It will require unprecedented cooperation among many state and local entities, among state and federal agencies, and between states in the case of watersheds crossing state lines.

- 6.1.2 Goals.** The Governors reaffirm their commitment to the restoration and maintenance of the chemical, biological, and physical integrity of the nation's waters and water ecosystems and the protection of its availability and acknowledge that the nation's water and related resources are increasingly central to our economic and environmental well-being. The nation's strategy for achieving these objectives should remain founded upon a vigorous federal-state partnership that recognizes that limited resources for water resource management demand enhanced intergovernmental cooperation.

- 6.1.3 State Responsibility.** The primary responsibility for water resource management is properly vested with the states, including pollution prevention, development of water quality standards and planning, and priority setting. State laws regarding water rights and allocations must be preeminent to federal laws and regulations and must be binding on federal agencies, including the Federal Energy Regulatory Commission. The federal government should assert no claim to the existence of nonreserved federal water rights. Further, federal activities within states must be consistent with state-developed water management plans, and water quality standards and programs.

The implementation of water quality standards should be designed to ensure continued progress toward the fishable, swimmable goal of the Clean Water Act. The Governors support state and federal efforts to give special protection to outstanding national resource waters.

- 6.1.4 Federal Responsibility.** The federal government should maintain its commitment to helping the states achieve their water quality goals through the coordination of federal programs, provision of technical and financial assistance, research and development, oversight of state programs in the form of periodic program audits, and enforcement in cases in which the state has failed to act after notice and opportunity to respond or if federal assistance is requested by any state. Federal programs should be designed so that they may be easily assumable by states.

As our government policies transition to a systems-based, comprehensive approach to managing water resources, we must introduce increased flexibility and latitude into current programs so that cross-categorical management of resources can flourish.

## 6.2 Grant Funding

6.2.1 **Preface.** The states believe that in order to maintain the substantial progress made over the past twenty years in implementing the mandates of the Clean Water Act, to ensure continued progress toward resolving remaining problems, and to begin to transition to a watershed-based water resource management scheme, Congress must provide adequate resources to finance water programs, and should allow states increased flexibility in the use of water program money.

6.2.2 **Recommendations.** Congress should allow states substantial flexibility in the use of grant funds other than State Revolving Loan Fund (SRF) capitalization grants by eliminating set-aside requirements, permitting states to shift grant funds between programs, and allowing the use of consolidated grant applications.

Congress should establish a national water discharge permit fee system, which authorizes states to collect fees to support their water program-related costs. Such fees should not justify reduction in federal support of water quality programs. If a state fails to develop an appropriate fee system, EPA should assess and collect fees in that state. States that are already collecting discharge fees for water quality protection programs should be given credit if fees are used for a water quality protection purpose.

While states recognize that current levels of support are inadequate, states urge Congress to appropriate, at a minimum, all authorized grant monies.

## 6.3 Clean Water Infrastructure

6.3.1 **Preface.** The states applaud the initial success of the State Revolving Loan Fund and believe that the SRFs should remain the mechanism for wastewater infrastructure funding.

However, state water management needs are evolving, and the SRF program must be revised to accommodate changing state and national priorities. As states successfully address traditional infrastructure needs, they turn attention toward new issues, including the refurbishment of aging facilities; the special needs of financially disadvantaged small communities; and "second-tier" pollution problems highlighted by the 1987 Clean Water Act amendments and toward creative management techniques.

The Governors emphasize the magnitude of new responsibilities imposed on states under the 1987 amendments, and the importance of providing access to SRF funds to a broader population. States also stress the importance, in an era of tight funding constraints, of maximizing efficiency in the use of available resources.

6.3.2 **Recommendations.** In order to protect the nation's existing, substantial investment in wastewater treatment and to ensure continued progress toward meeting the goals of the Clean Water Act, the Governors make the following recommendations.

- ~~Congress should appropriate level funding of at least \$2.1 billion annually for state revolving loan funds through fiscal 1994.~~
- Given the magnitude of remaining needs, especially those associated with the unfunded requirements of the 1987 Clean Water Act amendments, and additional needs identified since enactment, Congress should extend the federal commitment to provide capitalization grants for SRFs of at least ~~\$2.1~~ <sup>\$2.5</sup> billion per fiscal year through the year 2000.
- Statutes and regulations governing the administration of the SRF should be amended to make the SRF program more efficient, and SRF loans more accessible and competitive with market sources.
- Congress should recognize the special needs of small communities and provide assistance through appropriate amendments to SRF requirements.
- While Congress should finance water infrastructure needs strictly through the SRF program, grants may be appropriate for non-infrastructure water quality initiatives.

#### 6.4 Point Sources

6.4.1 **Preface.** Significant progress has been made in the last decade toward achieving the nation's clean water goals. The improvements have come primarily through control of emissions from "point sources." The system of permitting discharges is the cornerstone of the effort to control pollution for point sources.

6.4.2 **Recommendations.** The following improvements should be made to the permit system.

- Congress should require EPA to update the technology-based requirements of the Clean Water Act.
- Ten-year NPDES permits should be authorized provided there is an option to reopen the permit at any time, and rollover renewal of unchanging permits should be authorized.
- Any new requirements for additional permit conditions, specific numeric limits, or biologically based toxicity assessment techniques should be developed in consultation with the states. Congress should in no way inhibit the states from proceeding expeditiously to implement biomonitoring and bioassay techniques.
- Combined sewer overflows (CSO) controls should be driven by water quality impacts and a combination of state-developed best management practices (BMPs) and other measures, including end-of-pipe technology controls or effluent standards where dictated by water quality impacts.
- States should be able to determine appropriate permit conditions for controlling CSOs based on site-specific conditions, including water quality impairments caused by CSOs, cost-effectiveness of controls, and other criteria deemed relevant by the state.

#### 6.5 Nonpoint Sources

6.5.1 **Preface.** The Governors recognize that the nation's water quality objectives cannot be met solely through the control of point sources of water pollution. A majority of our existing water quality problems stem from nonpoint sources (NPS) of pollution. Reducing nonpoint pollution demands that careful attention be paid to managing land uses to protect water quality. Land use decisions affect large segments of society in many ways. Because NPS control must take into account local economic and geographic conditions, states should retain primary responsibilities for nonpoint source pollution programs.

The Governors also recognize that several examples of federal-state cooperative efforts exist at the local, state, and regional levels, like the Colorado River Basin Salinity Control Program. These programs serve as models for nonpoint source pollution control and deserve continued federal support and funding.

6.5.2 **Recommendations.** Following is an outline of an NPS system that could assist states in managing NPS pollution, for which the Governor would certify consistency with the law.

- Congress should authorize and appropriate at least \$400 million for state NPS programs from 1992 to 1996. Congress should also direct EPA to work with the states to conduct a needs assessment to determine the costs of controlling NPS pollution in the future. EPA should also be directed to help states determine what constitutes significant progress and to define uniform methods and criteria for determining how progress should be measured. Appropriations beyond 1996 should be based on the needs assessment.
- States should be required to identify and prioritize watersheds in need of nonpoint source management.
- States should be required to establish nonpoint source management goals for these watersheds and define best management practices appropriate to achieving such goals. This process should include local involvement.

- States should establish schedules for implementing BMPs in each priority watershed and identify milestones to measure progress toward meeting specified goals. States should require implementation of appropriate BMPs in targeted watersheds or make other appropriate adjustments in their Section 319 plans if, after sufficient time, significant progress is not made toward achieving the goals.
- A certification process should be developed to ensure that federal programs, activities, and land use decisions in priority watersheds, including those pertaining to grazing, forestry, minerals development, and agricultural cost share programs, are consistent with state NPS plans.

## 6.6 Groundwater

6.6.1 **Preface.** Groundwater provides one-half of the nation's drinking water supplies -- 97 percent of the drinking water for rural areas -- and maintains many valuable ecosystems. Because groundwater may be extremely difficult to restore once it is contaminated, the resource needs strong protection.

However, substantial federal authority exists to protect groundwater, and the Governors do not believe that new federal authority is needed at this time. Rather, it should be the policy of the United States to use its existing authorities in a coordinated fashion to protect the physical, chemical, and biological integrity of the nation's groundwaters to ensure that they are not degraded or in any way harmful to human health and the environment. Because groundwater resources are highly variable locally, states with their local units of government have and must maintain the primary responsibility for managing them, in partnership with the federal government.

6.6.2 **Recommendations.** The partnership for groundwater protection should be characterized by:

- State development and implementation of programs responsive to their groundwater protection needs. It is recommended that state programs include classification of aquifers, specification of control requirements for sources of groundwater contamination, and authority for state and local land use protection.
- Federal provision of financial and technical assistance to state and local governments. In particular, the federal government should develop criteria by which states may judge the human health, environmental, and ecological risks associated with known groundwater pollutants. In addition, the federal government should require minimum national performance standards for important sources of groundwater contamination.
- Local efforts to develop and implement land use protection programs. These programs should be consistent with relevant state authorities and policies.

## 6.7 Stormwater

6.7.1 **Preface.** Stormwater generated by runoff from streets, parking lots, buildings, and land associated with residential, commercial, and industrial developments is a significant source of pollution that may prevent water bodies from meeting the standards for their designated uses.

The Governors believe that reducing stormwater contamination is critical to achieving our nation's water quality goals. Unfortunately, our current statutory approach fails to reflect the contrasts between stormwater systems and typical point sources; the widely varying benefits and costs that a given level of stormwater control represents to different municipal governments; the difficulty of using the NPDES program to control all of the nation's stormwater dischargers; and the administrative costs to states for implementing the stormwater program.

6.7.2 **Recommendations.** To ensure that the national strategy for controlling contaminated stormwater is effective, equitable, and efficient, the Governors recommend the following changes in the stormwater program:

- Clear authorization of the use of site-specific best management practices and other management measures as well as uniform end-of-pipe control technologies and effluent guidelines for stormwater control requirements.

- Unambiguous authority for states to utilize enforceable nonpermit approaches that achieve levels of stormwater control equivalent to EPA's current permit program in their impact on water quality, or to administer the stormwater program in the same manner as they administer the pretreatment program.
- Authorization for states to prioritize stormwater control activities based on water quality, cost-effectiveness, and other criteria deemed relevant by the state.
- Extension, by at least five years, of deadlines for compliance with EPA's stormwater permit application requirements contained in the Clean Water Act.

## 6.8 Drinking Water

6.8.1 **Preface.** The protection of public health through the regulation of drinking water quality should continue to be a priority of government. The Governors recognize the complex relationship between the management of surface and groundwater resources and federal laws relating to groundwater cleanup.

6.8.2 **Federal Role.** The Governors believe that the appropriate federal role in protecting drinking water includes:

- Establishing maximum contamination levels and national drinking water regulations;
- Conducting research related to the development of standards and treatment technologies;
- Providing technical and administrative information;
- Conducting baseline sampling and publishing guidelines for development of state drinking water monitoring plans that include monitoring guidelines set for classes of substances based on the likelihood of threat presented within each state;
- Providing funding for state program activities, sampling, monitoring, inspection, and technical assistance for state drinking water programs and underground injection control programs;
- Coordinating federal activities that affect groundwater quality; and
- Continuing an underground injection control program.

6.8.3 **State Role.** The appropriate state role includes:

- Implementing safe drinking water programs;
- Managing surface and groundwater resources; and
- Prioritizing monitoring and standard setting based on greatest threats to drinking water quality.

6.8.4 **Recommendations.** The Governors reject proposals that condition primacy of state control on the provision of technical assistance to classes of water purveyors, impose facility siting requirements, or preempt state enforcement.

The Governors also oppose proposals to expand the definition of drinking water to include all underground sources that may be rendered fit for human consumption through treatment technologies not yet developed.

## 6.9 Wetlands

6.9.1 **Preface.** Wetlands in their natural state serve important ecological and socioeconomic functions that are either costly or impossible to replace. They provide habitat for wildlife, mitigate flooding, and maintain water quality by filtering out sediments and other pollutants.

The Governors recognize the need for improved protection of the nation's wetlands and support development of a comprehensive national wetlands protection strategy to promote preservation, conservation, and wise management of this vital resource. The Governors believe a comprehensive strategy should involve a broad range of both regulatory and nonregulatory programs, and a wetlands research program with key emphasis on developing effective methods of wetlands restoration and creation and of assessing the functions and values of wetlands.

The Governors believe this comprehensive strategy should reflect five general principles.

- First, protection efforts should be coherent and coordinated to make the most efficient use of scarce resources and minimize inconsistency among federal, state, and local programs.
- Second, wetlands management should be integrated with other resource management programs such as flood control, allocation of water supply, protection of fish and wildlife, and stormwater and nonpoint source pollution control.
- Third, wetlands delineation criteria and management policies should recognize the significant regional variance in the resource. Many wetlands functions and values derive from the location of wetlands in the watershed and the relationship of wetlands to other land and waters. Management policies must be tailored to local hydrologic and ecological conditions.
- Fourth, the Governors note that land use regulation is traditionally a state and local function and believe that increased state involvement in wetlands protection programs will further all of the above three principles, and that the regulatory program should be designed to facilitate state assumption.
- Finally, the Governors believe the national strategy should recognize the unique situation encountered by the state of Alaska. Alaska has a tremendous amount of wetlands -- more than the rest of the United States combined -- and wetlands constitute as much as 75 percent of the landscape. Many are already in public ownership, and there has been a low historic loss rate -- less than one-tenth of 1 percent. Because of certain geographic characteristics unique to the state (it is arctic and subarctic, with development constrained to limited geographic areas), policies and procedures that are reasonable in the coterminous states are not always applicable in Alaska. Yet needs do arise that may impact on Alaska's wetlands resource.

In lieu of direct application of all these following recommendations in Alaska, the Governors recommend that the appropriate government agencies and stakeholder groups in Alaska work cooperatively to develop regional wetlands strategies that accommodate sustainable wetlands protection and sustainable economic growth for the state.

- 6.9.2 Goals.** The Governors believe the goal of the national wetlands protection strategy should be no net loss of wetland resources. The Governors recommend that Congress include in the Clean Water Act a national wetlands protection goal to achieve no net loss of the nation's remaining wetlands base, as defined by acreage and function, and to restore and create wetlands where feasible to increase the quantity and quality of the nation's wetlands resource base.

This goal does not imply that individual wetlands will in every instance be untouchable or that the no net loss standard should be applied on an individual permit-by-permit or acre-by-acre basis -- only that the nation's overall wetlands base should reach equilibrium between losses and gains in the short run and increase in the long term. The public must share with the private sector the costs of restoring and creating wetlands to achieve this goal.

The Governors recognize that the goal may have to be implemented at different rates in various regions of the country to reflect regional wetlands needs, conditions, and types.

However, the goal does not imply that wetlands losses in one state or region of the country can be balanced with gains in other, distant regions. Moreover, the Governors recognize that this goal can be most effectively met with policies that assert a preference for avoidance of wetlands alteration.

- 6.9.3 Definition of Wetlands.** The Governors stress that the definition of wetlands and delineation criteria must be workable and scientifically valid, and should recognize regional variance in the resource. The Governors make the following recommendations.

- Congress should write into the law the definition of wetlands currently included in EPA's Clean Water Act Section 404(b)(1) guidelines -- "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions."

- Congress should not legislate specific wetlands delineation criteria, but should establish a procedure for administering agencies to develop regional delineation guidelines in consultation with the states and an independent scientific advisory committee. The Federal Manual for Delineating and Identifying Wetlands should be regionalized to scientifically define wetlands based on regional variations.
  - Efforts should continue to ensure that agencies at all levels of government use equivalent definitions for regulatory purposes and to ensure that all staff are provided with appropriate training for implementing field delineation techniques.
- 6.9.4 **The Regulatory Program.** The Governors urge the administration to consider changes to Clean Water Act Section 404 to make the program more workable. The Governors also make the following specific recommendations.
- 6.9.4.1 **The Scope of Regulation.** The Governors hold that the scope of regulation in federal and state programs should be expanded to explicitly address the following activities in wetlands: dredging, filling, removal or excavation of soils, drainage or flooding, and destruction of plant life or habitat.
- The Governors also believe that the scope of regulation should be restricted, under certain circumstances, in application to artificial wetlands. Specifically, the Governors believe that:
- Artificially induced wetlands such as those resulting from and incidental to ongoing agricultural practices, not used for mitigation of wetlands loss, should not be counted in the nation's wetlands base.
  - Wetlands created and maintained solely for use in resource management, such as for stormwater abatement, should be exempt from regulation as long as they are used and managed for their intended purpose. The owner or manager of such a managed wetland should be under no obligation to ensure the long-term persistence of wetlands functions and values. Wetlands created and managed for waterfowl production should be exempt from regulation for operation and management activities, but should remain subject to regulation for conversion to non-wetlands because waterfowl depend on consistent availability of habitat.
- 6.9.4.2 **Mitigation Policy.** Mitigation should be an essential component of wetlands management, and Congress should include a statement of mitigation policy in the Clean Water Act.
- The Governors believe that regulatory policies should include a clear preferred sequence of mitigation options that begins with avoidance of adverse impacts on wetlands and the reduction of unavoidable adverse impacts and allows the use of environmental compensation only as a last resort, while allowing regulators sufficient flexibility to approve practical options that provide the most protection to the resource and that balance the effects of such actions on the total human environment, recognizing socioeconomic factors. The Governors recognize that definitions of avoidance of adverse impacts and reduction of unavoidable adverse impacts must be tailored to regional circumstances.
- The Governors emphasize that mitigation will work only with provisions for strict enforcement, long-term financing, and careful monitoring of mitigation projects to ensure their success.
- The Governors support the use of mitigation banking provided that: 1) mitigation banks are used in a manner consistent with the sequencing requirement, strictly to mitigate unavoidable wetlands impacts; 2) impacts are mitigated on-site when possible; 3) banks are located in the same watershed or ecological region as the wetlands impacts they mitigate; and 4) banks provide in-kind replacement of wetlands functions and values lost.
- 6.9.4.3 **Wetlands Classification Systems.** The Governors oppose imposition of a national classification system, but believe that classification systems tailored to individual watersheds may be a useful tool in developing regional and local resource management plans.
- 6.9.4.4 **Compensation of Property Owners.** The Governors believe that interpretation of the Fifth Amendment of the Constitution concerning the taking of property by government is the appropriate province of the courts, and that legislative requirements are not warranted. The Governors believe that Congress should not legislate a definition of compensable taking of private property through the Clean Water Act or otherwise. A statutory definition of a compensable taking would have far-reaching implications for state and local zoning, land management, and public health laws of all kinds.

- 6.9.4.5 Delegation of Authority Among Federal Agencies.** The Governors support streamlining the permitting process. However, the Governors stress that each federal agency responsible for the implementation of wetlands programs currently has a specific interest in the protection of the resource, and makes a unique contribution to the program. Concentration of authorities in one federal agency would necessitate restructuring of that agency and reallocation of resources.
- The Governors may support delegation of Clean Water Act Section 404 authorities to one federal agency after a comprehensive study of the impacts of concentration, and development of a plan for the necessary reorganization. In any case, the role of each federal agency should be more clearly defined, and replication of responsibilities should be reduced.
- 6.9.5 Nonregulatory Approaches to Protection.** The Governors stress that a national wetlands protection strategy must involve nonregulatory programs, an essential complement to the regulatory program. The Governors support continued and additional emphasis on resource management planning; programs to promote wetlands restoration and creation; development of tax incentives to encourage wetlands protection; public acquisition of wetlands; public education and management outreach programs; wetlands mapping and tracking systems; and efforts to reduce incentives to wetlands conversion.
- 6.9.5.1 Resource Management Planning.** The Governors believe that regional resource management planning is a valuable mechanism to recognize regional variance in wetlands resources, and to integrate wetlands protection with other resource management efforts.
- The Governors believe that Special Area Management Planning, as currently authorized under the Coastal Zone Management Act, should be authorized under the Clean Water Act, and that states should have flexibility to use funds authorized under Clean Water Act Sections 319, 106, 205(j), and 604(b) to support wetlands management planning.
- 6.9.5.2 Wetlands Restoration and Creation.** Congress should establish a national strategy to coordinate and promote restoration of degraded wetlands systems involving participation of federal agencies, state and local government, and the private sector. The North American Waterfowl Management Plan, administered by the Fish and Wildlife Service, and wetlands conservation provisions of the 1990 Food Securities Act serve as potential models for such a strategy.
- The Governors support provisions of the 1990 Food Securities Act that encourage wetlands protection. In particular, the Governors encourage Congress to fund the Wetland Reserve Program to its full authorized level.
- 6.9.5.3 Tax Incentives.** Congress should review the federal tax code to identify opportunities to establish incentives to encourage wetlands protection.
- 6.9.5.4 Public Acquisition.** Acquisition programs at all levels of government, both alone and in partnership with the private sector, should accelerate acquisition of valuable wetlands.
- 6.9.5.5 Public Education.** Public education focused on the value of wetlands and the structure of regulatory programs will increase public support for the program and ability to predict the outcome of regulatory decisions. The Governors support expansion of federal, state, and private education and outreach programs.
- 6.9.5.6 Mapping.** The Governors support continuation and improvement of current national wetlands inventory mapping efforts as well as efforts to disseminate such maps to landowners and to those responsible for wetlands and land use planning.
- 6.9.5.7 Reduction of Incentives to Conversion.** The federal government should conduct a thorough assessment to identify key federal programs causing wetlands degradation.
- Local governments should examine their full range of development controls to identify and modify those that intentionally promote wetlands conversion.
- States should identify opportunities to reduce unintentional incentives for wetlands conversion.
- 6.9.6 State Programs.** The Governors believe that increased state involvement in wetlands policymaking and program administration will increase program efficiency and efficacy. States can effectively integrate wetlands protection with other state-administered water programs and can tailor wetlands programs to unique regional circumstances.

**6.9.6.1 State Assumption.** The Governors assert that the Clean Water Act should encourage state assumption of the Section 404 wetlands regulatory program, an excellent opportunity to simplify and consolidate permitting procedures.

While it is possible for states to assume management of the Section 404 program, few states have applied and only one state has received full program authorization. The lack of federal funding for assumed state programs and other conditions of assumption that are perceived as rigid are the primary reasons for the lack of state interest. Therefore, the Governors make the following recommendations.

- The federal government should establish clear goals for wetlands protection. In the context of a resource management plan approved by EPA, states should have flexibility in designing programs to achieve these goals, tailoring management policies to local hydrologic and ecological conditions.
- States should be allowed to assume discrete and clearly identifiable portions of the Section 404 regulatory program as they develop the capability to do so, rather than requiring the entire program to be delegated at one time.
- Qualified states that have effective processes for coordinating their review with the Corps of Engineers for permits that may affect navigable waters should be allowed to assume all Section 404 responsibilities, including those in navigable waters and adjacent wetlands. The corps would reserve its rights to protect navigational servitude and national defense, but would work with the states to confine its role to interstate and national issues.
- Each state receiving delegation of the Section 404 program should negotiate a method of federal oversight appropriate to its circumstances. Oversight in the form of an annual program audit should be a negotiable option. Oversight on a sliding scale should be permitted.
- Federal agencies should temporarily loan employees to states assuming the Section 404 program to help train state staff.
- The corps should be encouraged to issue state program general permits, and to issue general permits for geographical areas as well as for classes of activities. State program general permits are an alternative method for states to assume partial responsibility for wetlands regulation, and should be explicitly sanctioned.

**6.9.6.2 Intergovernmental Coordination.** To facilitate effective intergovernmental coordination, the Governors recommend that federal agencies responsible for wetlands regulation jointly establish a state-federal coordinating committee to develop and evaluate new wetlands management techniques and cooperative state, federal, and local wetlands programs.

**6.9.6.3 State Wetlands Conservation Plans.** State and local governments and regional agencies, with the financial and technical support and cooperation of the relevant federal agencies, should develop and implement state wetlands conservation plans and outline appropriate state and regional strategies. The Governors recommend that Congress encourage EPA to continue support for state plans and provide funds for their development and implementation.

**6.9.7 Government Compliance.** All levels of government must seek to avoid wetlands alterations in projects that they construct, maintain, sponsor, or support. While significant improvements have been made in methods and procedures for evaluating the effects of programs on wetlands, additional actions are appropriate. Therefore, the Governors make the following recommendations.

- Congress should require federal consistency with state wetlands conservation plans and programs.
- Federal and state governments should require or initiate mitigation for the direct and indirect wetlands alterations caused by projects that they construct, maintain, sponsor, or support.
- EPA should establish procedures for verifying compliance with wetlands mitigation provisions identified in federal environmental impact statements.
- Federal agencies should recognize the costs of satisfying state wetlands mitigation requirements established by state statute as legitimate project costs in any project subject to federal cost sharing.

- Congress should establish wetlands restoration and creation as part of the mission of the Corps of Engineers, the Bureau of Reclamation, the Soil Conservation Service, the Federal Highway Administration, and other federal agencies as appropriate.

#### 6.10 Water Conservation

Water conservation must be a fundamental consideration in developing water management programs. The issue is both economic and environmental. The economic and environmental impacts of water conservation vary by region and are often site-specific. As part of their total water management program, states should include a component for evaluating the true benefits and costs of conservation. In designing water programs and projects and developing planning and evaluation criteria, states should consider water conservation.

#### 6.11 Floodplain Management

Effective floodplain management is a federal-state-local partnership. The Governors emphasize that efforts to mitigate flood damage to existing development must be continued and strengthened.

Wise management of flood-prone land is necessary to limit the exposure to flood damage. Additionally, natural and relatively undisturbed floodplains provide several beneficial functions associated with moderation of flooding, retention of floodwater, and the reduction of erosion and sedimentation. Measures to protect these areas also support other worthwhile objectives like wetlands preservation, groundwater recharge, and the maintenance of fish and wildlife habitat.

The primary tool necessary for effective floodplain management is the federal Flood Insurance Rate Map. This map delineates lands that would be subject to flooding by the 100-year frequency flood event. Automating this large database and keeping it current must be continuing federal responsibilities.

The Governors believe that it is critical to reduce the potential for existing and future flood damage through the implementation of comprehensive floodplain management programs, and recommend:

- At a minimum, continued federal technical and financial assistance for state and local implementation of feasible and cost-effective nonstructural flood damage mitigation measures.
- Improved federal programs to develop, maintain, and automate floodplain mapping, and provide information critical to reducing the human and economic effects of flooding.
- Federal minimum erosion management standards for regulation of coastal lands to minimize risks to public safety, reduce future property damage, and mitigate existing hazards.
- Federal incentives, such as reduced flood insurance rates, to encourage enhanced floodplain management and state and local measures to protect natural and beneficial floodplain functions.
- Efforts to achieve multiple natural resource and development objectives through comprehensive river and coastal management.
- Coordination of federal programs and policies to assure that floodplain management and damage mitigation objectives are met.
- Federal cost-sharing requirements should fully credit non-federal contributions to all phases of structural and non-structural projects (planning, design, construction, etc.), and should be based on local ability to pay.

Adopted August 1991; revised February 1992.

**NATIONAL  
GOVERNORS'  
ASSOCIATION**

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Carroll A. Campbell Jr.  
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March 24, 1993

President Bill Clinton  
The White House  
1600 Pennsylvania Avenue  
Washington, D.C. 20500

Dear Mr. President:

The Governors appreciate your attention to the states' critical need for water infrastructure financing, and strongly support your proposal to provide \$845 million to the Clean Water Act state revolving loan funds (SRFs) as an economic stimulus in fiscal year 1993; to extend funding for SRFs through fiscal year 1997; and to finance a new revolving fund for drinking water. We urge you to consider the following revisions to your proposal.

The Governors recommend a minimum fiscal year 1994 appropriation of a full \$2 billion to the Clean Water Act SRFs and a full \$1 billion for the drinking water revolving fund. The \$845 million in proposed stimulus spending should be in addition to a \$2 billion fiscal year 1994 SRF appropriation. Stimulus spending should represent a real increase in funding, not merely accelerated spending of fiscal year 1994 funds in fiscal year 1993.

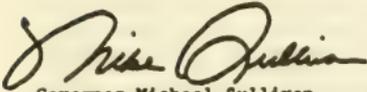
We believe a \$3 billion annual funding level for wastewater and drinking water treatment is clearly justified by documented needs in both programs. It is important to establish a \$3 billion baseline in fiscal year 1994 in order to ensure sufficient appropriations in fiscal years 1995-97.

Also, the Governors believe that all wastewater infrastructure should be funded through the Clean Water Act SRFs. SRFs provide sustainable long-term funding, have low administrative costs and a 50 percent faster payout rate than categorical grants, and provide incentives to local government to reduce costs and develop appropriate user fee systems. We stress that any continuation of current construction grant funding to large coastal cities should be in addition to, not an earmark in, a \$2 billion fiscal year 1994 SRF appropriation.

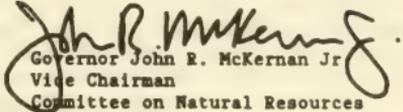
President Bill Clinton  
Page Two  
March 24, 1993

Thank you for considering our recommendations. Please feel free to contact us or Tom Curtis of the NGA staff at 202 624-5389 if we can be of assistance.

Sincerely,



Governor Michael Sullivan  
Chairman  
Committee on Natural Resources



Governor John R. McKernan Jr.  
Vice Chairman  
Committee on Natural Resources

cc: Administrator Carol Browner, EPA



ASIWPCA

Association of State and Interstate  
Water Pollution Control Administrators  
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(202) 898-0905 • Fax (202) 898-0929

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**CLEAN WATER ACT REAUTHORIZATION**  
**RECOMMENDATIONS**

**Presented by Roberta Haley Savage, Executive Director**

**before the**  
**U.S. House of Representatives**  
**Water Resources and Environment Subcommittee**

**March 31, 1993**



A S I W P C A

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**Association of State and Interstate  
Water Pollution Control Administrators (ASIWPCA)**

**CLEAN WATER ACT REAUTHORIZATION  
RECOMMENDATIONS**

Mr. Chairman, members of the Subcommittee, I am Roberta (Robbi) Savage, Executive Director of the Association of State and Interstate Water Pollution Control Administrators (ASIWPCA). ASIWPCA is, as you know, the national organization of State officials who implement the Clean Water Act on a daily basis. All 50 States are members of ASIWPCA, along with 6 interstate commissions, the trust territories and the District of Columbia. Our Association is committed to the environmental objectives set forth in the law, and we appreciate the opportunity to appear before you today to present the States' Clean Water perspective.

Since the laws initial passage in 1972 States have gained considerable experience in dealing with the serious water quality problems confronting the nation. Tremendous strides have been made in the cleaning up and protecting of the environment. Our recommendations based on the positions of the states are premised on the following principles:

The Clean Water Act is fundamentally sound and while some modification of the law is necessary, wholesale, changes as a part of the reauthorization is not necessary or desirable. The most serious impediments to the Clean Water Act goals are:

- \* The lack of adequate Federal funding and State flexibility.
- \* Significant delays in Federal agency guidance and policy, coupled with serious delays in allocation of appropriated dollars pose major problems for the States.
- \* The need for adequate time to carry out the 1987 Water Quality Act Amendments. With inadequate funding and technical resources, coupled with delay in policy and regulatory guidance from USEPA, States have found themselves behind the implementation schedules as dictated by Congress.

To address these concerns, ASIWPCA calls on the House to reinforce the position that:

1. States must continue to have the lead role in program development and management.
2. New Federal mandates must be accompanied by increased State flexibility and adequate funding.
3. Existing resources need to be utilized more efficiently and effectively to assure the desired environmental results.
4. The need to define the continuing Federal funding role in infrastructure financing after 1994.

Having had the opportunity to work closely with this committee for the past two decades, our formal positions (attached) have been presented for the record. For the purposes then, of this discussion, I would like to focus primarily on:

- I. State management of the national program
- II. State Revolving Loan Fund
- III. Water Quality Standards
- IV. Pollution Prevention and effluent guidelines
- V. Nonpoint source management
- VI. Watersheds Management
- VII. Stormwater

## I. STATE MANAGEMENT OF THE NATIONAL PROGRAM

The Clean Water Act recognizes through delegation under Section 106, that water pollution control programs are administered more efficiently and effectively at the State level. A crisis however, is looming. With the passage of the 1987 amendments, major program responsibilities were authorized, yet unfunded. Specifically I refer to the mandates for stormwater, toxics and nonpoint sources, etc. Because of these unfunded requirements, there is now a serious \$400 Million shortfall in needed funding.

The Section 106 should therefore be significantly increased, then allocated in its entirety to the States. Any Federal match requirement should be phased in over 3 years. Any "level of effort" (LOE) should be based on the current level of State general appropriations in terms of dollars, and maintained unless there is an across-the-board State budget reduction.

In support of the comprehensive management approach (e.g. basin/watershed programs), the Act should eliminate the proliferation of entitlement grants, set-asides and earmarks by funding special projects as a part of Section 106. Congressional priorities should be recognized and incorporated into negotiated State work plans, with flexibility to support regional/State priorities to achieve environmental results.

The Act should provide a Federal permit fee structure with exemptions for State programs with equivalent total receipts. USEPA should impose fees only if States are unable or unwilling to do so. Fees assessed by States should be retained for broad use within the context of a States Clean Water Program. States should be allowed to use fees to meet their 106 matching requirements.

Finally, the current sensitivity toward interaction with the Federal Government has been a significant inhibitor to the operations of State/USEPA as co-regulators. Therefore, ASIWPCA and State activities with USEPA need to be clearly recognized, by law, as consistent with the Federal Advisory Committee Act (FACA) and the Federal Grants and Cooperative Agreements Act to assure adequate and meaningful implement action of the Clean Water Statute.

## II. STATE REVOLVING LOAN FUND (SRF)

States were closely involved in the development of the SRF and we appreciate the leadership of this committee and Subcommittee in assuring that the States concept became legislative reality. All 50 states

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| <ol style="list-style-type: none"> <li>1. Delete Section:</li> <li>2. Delete the word "proportional" in Section 204(b)(1), User Charge Requirements.</li> <li>3. Delete mandatory requirement to perform value engineering in Section 218, Cost Effectiveness.</li> </ol> | <ul style="list-style-type: none"> <li>* 201(g)(1) on the 20% Limitation</li> <li>* 201(g)(5) on Innovative/Alternative Analysis</li> <li>* 201 (6)(g) on Recreation/Open Space Requirements</li> <li>* 513 on Labor Standards Provisions</li> </ul> |
|---|--|

Land Eligibility: Acquisition of land, easements and rights of way should be an eligible SRF cost. The exclusion (a holdover from the defunct grants program) is an impediment to successful program management.

Loan Amortization Period: The 20-year loan repayment period should be extended to 30 years generally and up to 40 years in small communities or in financial hardship situations. The extension is needed to make the SRF more competitive and reduce the need to use deep discount interest rates which can erode "Fund Corpus".

Federal Oversight: Recognizing the intent of Congress to create a "State" managed program, it is necessary to keep federal oversight and involvement to a minimum. When a citizen secures a loan for purchase of a home, the lending institution does not involve itself in the selection of furniture, carpets, draperies and so on. These decisions are the homeowners, as are the responsibilities for upkeep and repayment of the loan. Similarly, neither the State nor the loan recipient should be saddled with extensive oversight and review by the Federal government. Reasonable time periods for review should be established;

- \* Intended Use Plan Review -- One year after last capitalization grant.
- \* Annual Report -- One year after last draw of Federal money.
- \* Annual Review -- Two months after last annual report.
- \* Annual Audit -- Two years after last draw of Federal money.

Needs Survey: A credible survey of all municipal needs eligible for SRF financing should be undertaken periodically. States are concerned that the current survey does not include the 1987 Act mandates and thereby is not reflective of actual need.

Small Community Assistance: Importantly, more than 33% of identified SRF projects are for small communities. In some instances, however, low interest loans are unable to provide affordable assistance for communities with economic hardships. Small communities, with significant economic need, should be addressed with special assistance and consideration through the existing SRF. The States oppose the creation of a new Federally administered program to compete with the SRF. Provisions, for small communities should be incorporated into the SRF, with language defining small and/or hardship criteria and providing:

- \* Additional authorized funds to blend as a principal subsidy with SRF loans,
- \* Exemption from Title II and Federal cross-cutter requirements,

have and are implementing the SRF program. Overall, the program is working exceedingly well. Reforms, however, are needed to adequately capitalize the fund, streamline the program to expedite construction and maximize environmental results. It is also important for us to recognize and accommodate the needs of small communities.

**Funding:** SRF eligible requirements in the 1987 Act (e.g. nonpoint source, stormwater, combined sewer overflows, sludge, and toxics control) go far beyond the previously existing needs upon which the \$18 Billion 1987 capitalization was based. Municipal needs, in total, are likely to exceed \$200 Billion.

At a minimum, additional capitalization in the amount of \$5 Billion annually, until the year 2000, will be required to build the SRF to an acceptable level that can revolve in perpetuity. The inclusion of water supply facility assistance in the Title VI SRF will, as proposed by the President in his Economic Stimulus Package, require additional funding (see below). To fulfill the basic Clean Water Act requirements, Congress should appropriate at least \$2 Billion for traditional wastewater treatment needs in FY94.

**Grants:** ASIWPCA opposes re-establishing a Title II type grant program. The SRF has proven to be an efficient and effective use of scarce Federal dollars for meeting municipal infrastructure needs for several reasons. 1) All 50 States have their SRF's up and running, 2) Planning, design and implementation under SRF is 50% faster than under the Title II construction grants program, 3) Grants undermine the integrity of the SRF, 4) States have worked hard to work with communities to accept and participate in the SRF program, and 5) grants can delay compliance -- even a remote possibility of grants encourages communities to hold out for a grant rather than to proceed with a SRF toward construction. This sends a poor message to those trying to meet the requirements of the law -- reinforcing the appearance that if a community puts off solving their problems, the Federal government will come to the rescue with tax dollars.

#### Streamlined Requirements:

Through the administration of the State Revolves Loan Fund, States have identified several improvements which could enhance program operation. Specifically:

**Administration:** The 4% limitation on SRF administrative costs should be based on the appropriated amount, but no less than the authorization level, with a minimum of \$400,000 per State. The limitation should apply only to the Federal contribution, to allow States to utilize their own dollars to manage the program as they choose.

**Cross-cutting and Title II Requirements:** Some Federal requirements have no environmental value yet they increase project costs, cause delay, and decrease SRF competitiveness. For example, the Title II 20% limitation on the use of funds for nonpoint sources, major rehabilitation projects, combined sewer overflows, and collector sewers (Section 201(g)(1)) should not apply. While the Association accepts the Title II objectives, States should have the discretion to apply the goals as appropriate to individual projects. In the absence of obtaining this type of flexibility, the following modifications to Section 602(b)(6) are necessary:

- \* Up to 40 years for repayment of loans less than \$10 Million.
- \* Use of SRF funds for State small community outreach and technical assistance, and
- \* Land and easements as eligible costs.

States should set the population threshold for defining "small community", up to 10,000.

Expanded SRF Eligibility for Water Supply: The Association could support appropriation of additional supplemental funds for water supply projects and, short term use of the Title VI SRF as the vehicle for distribution with certain caueats. Furthermore, an "SRF type mechanism" should be considered as the best long term vehicle for fund distribution. However, such funding must not demean the integrity of the Clean Water Act SRF. Let me be very specific about the terms under which ASIWPCA can support an SRF for the drinking water program.

1. Additional funding must be authorized and appropriated above the \$5 Billion level recommended for Clean Water Act needs under the Title VI SRF program.
2. States must have the flexibility to establish separate SRFs, develop separate funding priorities and/or include water supply project funding under existing Title VI SRFs.
3. There must be separately identifiable Federal funding sources for both the Clean Water Act and Safe Drinking Water Act assistance programs.

In the long term, a Safe Drinking Water Act needs development process must be established.

### III. WATER QUALITY STANDARDS

The existing framework for developing standards is adequate for the existing program. However, USEPA needs to expand its 304(a) criteria process by developing meaningful implementation guidance to resolve outstanding issues and vagaries about translating criteria into permits. USEPA should not inhibit the States' ability to accommodate advancements in science. Significant differences in risk assessment within the scientific community and Federal programs also need to be addressed. States should continue reviewing standards on a triennial basis. Given diverse natural environments, standards need to be tailored to meet specific situations. States oppose presumptive application of Federal criteria as it significantly inhibits innovation and development of creative and aggressive new approaches.

States must continue their primary role in establishing standards and the burden of proof for disapproval should remain with USEPA.

1. USEPA should submit to Congress a five year schedule for accelerating revision and development of water quality criteria, with an annual update. The Agency should consult with the States in development and revision of the standards program. States should be provided the option to adopt numerical chemical and physical, and/or numerical narrative biological standards for toxics.
2. USEPA 304(a) criteria should be expanded to include implementation guidance.
3. Regulation of water quantity should continue to be the sole prerogative of the States.

#### IV. NONPOINT SOURCES

At the outset, it must be recognized that Section 319 of the Clean Water Act has been woefully underfunded. The necessary staff resources have not been provided at either the State or Federal levels, to assure the desired results. The Nonpoint Source Control Program (NPS) is inherently difficult because it affects individuals. It affects how we live and how we conduct our business. Because NPS control must take into account local conditions, States need to continue their lead role in program development and management. To produce results, States must have the ability to establish and maintain long term, consistent programs. This requires an effective national framework which requires:

- 1) USEPA to a) increase public awareness, b) develop better science, c) create regulatory/economic incentives, and d) issue guidance for evaluating State programs. Federal guidance should address specific source categories to cover, a) evaluation criteria, b) methods to estimate reductions in NPS loads, c) evidence of necessary local involvement, and d) critical habitat/ecosystem protection.
- 2) States too must enhance their programs to:
  - \* Identify priority watersheds, set goals, and establish implementation mechanisms with schedules and a monitoring program in 30 months.
  - \* Evaluate progress towards meeting water quality standards within 48 months after program approval. (After 1995, Federal funding should be contingent upon an approved plan.)
  - \* Update the program as needed to address water quality violations within 12 months after evaluation (and every 5 years thereafter).

To achieve objectives, a more efficient delivery systems are needed. The present process of project by project State work plan development, review and approval is not manageable at increased funding levels or ongoing programs. State use of 319 funds should be based on approved NPS implementation plans. And it is critically important that all related Federal agency activities and programs to be consistent with State plans. Program eligibilities are currently adequate, however, the type of activities covered as eligible, should include: planning, assessment, demonstrations, enforcement, technical assistance, education and training. Institution of local programs should be eligible and States should also be able to use up to 20% or \$200,000, (whichever is greater), to manage implementation and update 319 plans.

Funding: The Section 319 program should continue to cover nonpoint source control implementation costs not appropriately addressed through the SRF. The long term State goal is, however, to move the NPS program to a point where integration into Section 106 and SRF can occur. In the interim, annual funding annually under Section 319 should be authorized at:

- \* \$500 Million, FY 1994-96
- \* \$1 Billion, FY 1997-98

A specific formula should be used for distribution of funds to the States -- with elimination of national setaside for competitive projects ("beauty contests").

NPS control will be a long term undertaking comparable to point source control, but with a much higher level of intergovernmental cooperation. Progressively, the program should incorporate needed mandatory assurances, technology transfer, technical assistance and education programs. This will require controls at the watershed level that consider groundwater and surface water quality objectives.

## V. WATERSHED MANAGEMENT

Watershed management (incorporated as the River Basin Program, under Section 303) is a fundamental component of the 1972 Act. The initial program was designed to provide States with a vehicle to broadly examine pollution control priorities and strategies which are established via many independent processes and funding sources. The concept of Watershed Protection can be surgically enhanced by strengthening State Management Plans under Section 303(d), incorporating Section 304(l), 319, 320, and other programs coordinates. To incorporate the Watershed theme throughout the Clean Water Act it is important to:

1. Identify State geographic management areas under 303(d) to drive permit issuance, nonpoint source controls, monitoring, and other management decisions, including funding allocations.
2. Utilize State ranking within the Watershed for Federal monitoring programs.
3. Identify the geographic management areas under 303(d) to be reported to USEPA in the 305(b) and basin planning process. The Section 305(b) Report should be required once every five years, since water quality trends change slowly. Sufficient time is needed to develop improved and more consistent reporting.

Watershed protection is a "philosophy" of management that the States and ASIWPCA support. However, the Association does not support any approach that would:

- 1) Create a new program upon the many already existing.
- 2) Create a new layer of government or planning entities,
- 3) Impose a uniform or prescriptive "one size fits all" national approach,
- 4) Undermine State and Federal law or,
- 5) Encourage a weakening of water quality goals.

## TECHNOLOGY BASED LIMITATIONS

Categorical effluent limitations are a regulatory cornerstone of the Act and the *primary tool* for working efficiently and equitably toward eliminating and preventing pollution. Unfortunately, the majority of Best Available Technologies (BAT) guidelines are outdated and of little value. States are forced to rely on water quality standards to establish limitations, which is resource intensive. The Act should mandate that USEPA timely publish and revise Section 304(b) regulations to:

1. Set aggressive deadlines for updating existing effluent limitations for industries not yet addressed.
2. Better define best available technology (BAT) to assure that categorical effluent limitations do, in fact, reflect advancements in wastewater treatment.
3. Revise, as appropriate, the factors currently set forth in 304(b) for BAT to address pollution prevention and waste reduction.

## VI. POLLUTION PREVENTION

Agency-wide action is needed to assure progress efficiently and effectively toward pollution prevention and zero discharge of specific highly persistent, bioaccumulative substances. "End-of-pipe" solutions are only one mechanism. However, zero discharge does not necessarily mean zero availability, since persistent chemicals, once in the environment, are likely never to be zero. Therefore, the Act should assure that USEPA:

1. Prohibits under the Toxic Substances Control Act (TSCA) the production and use in the market place of specific persistent, bioaccumulative toxic substances. Priority should be placed on substances currently exceeding State/Federal action levels for fish flesh.
2. Lists toxics for which the discharge, emission, and release must be minimized in all media (air, water, waste management, etc.).
- 3) The pollution prevention strategy, emphasizing the technological solutions to minimize the discharge of persistent toxics.

## VII. STORMWATER

ASIWPCA supports the Act's stormwater control objectives, addressing the most significant sources first. However, the extensive time taken to finalize the USEPA rules makes the deadlines unachievable, threatening the Act's strategy of phased implementation. The Act needs to assure that stormwater requirements do not overwhelm or undermine State permit programs under NPDES, as the number of permits could increase 10 fold with the inclusion of stormwater. Unless action is taken to focus the program, major cuts in other programs -- including toxic controls -- must occur.

1. For municipal dischargers, controls that reduce discharges to the *maximum extent practicable* should be required and are consistent with the mandate that water quality standards be met.
2. For industrial dischargers, the first round permits should require implementation of *BMPs*.

Permits should not be required for, municipalities less than 100,000 population, unless a particular stormwater discharge is a significant contributor to pollution or the town is served by a separate stormwater system with a total population of 100,000 or more.

## IN SUMMARY

The States and the Association are appreciative of this Committees interest in moving expeditiously forward to reauthorize the Clean Water Act. Mr. Chairman, this subcommittee has consistently taken a strong leadership role in Clean Water and we look forward to having the opportunity to work closely with you and your excellent staff toward developing successful amendments to the Statute.



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**Association of State and Interstate  
Water Pollution Control Administrators (ASIWPCA)**

***CLEAN WATER ACT REAUTHORIZATION  
RECOMMENDATIONS***

**March 1993**

ASIWPCA CLEAN WATER ACT REAUTHORIZATION  
RECOMMENDATIONS

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**CLEAN WATER ACT REAUTHORIZATION  
RECOMMENDATIONS**

The 1972 Clean Water Act set requirements for enhancing the nation's water quality using national goals, criteria and programs primarily implemented by the States. Tremendous strides have been made cleaning up and protecting the environment. In the process, States have gained considerable experience confronting serious water quality problems and developing effective approaches for addressing them. ASIWPCA recommendations on reauthorization are premised on the following principles:

- States need to continue their lead role in program development and management.
- The Act is fundamentally sound -- to enable States to accomplish the Clean Water Act goals:
  - \* More time is needed to carry out the ambitious 1987 Water Quality Act mandates.
  - \* Program and infrastructure needs must be funded more adequately.
  - \* Existing resources must be used more efficiently and effectively.
  - \* Increased Federal attention is needed to the program's basic building blocks, e.g., effluent guidelines and standards.
- Increased Federal monitoring coordination and Federal consistency with State plans is needed.
- Comprehensive planning, pollution prevention and nonpoint source control must be addressed.
- If Congress imposes additional mandates, it is critical that the Act assures:
  - \* State flexibility and
  - \* Funding above the 1987 Act baseline.

**STATE PARTNERSHIP (Section 101)**

Water pollution control programs are administered more efficiently and effectively at the State level. National policy development should be guided by the following principles:

1. ASIWPCA and State activities with USEPA should be recognized in the Act as consistent with the Federal Advisory Committee Act to assure adequate and meaningful input.
2. State programs should be approved if they meet the goals, objectives, and intent of the Act.

**Rationale:** Delegated programs should be designed to meet statutory objectives. They need not be identical to USEPA regulations, policies, or procedures. It is essential that State agencies be involved in USEPA policy development to maintain the partnership and interchange of ideas.

## STANDARDS, PLANNING AND MONITORING

### I. WATER QUALITY STANDARDS (WQS) (Section 303)

States should continue their primary role in establishing standards. The burden of proof for disapproval should remain with USEPA. USEPA also has a vital role in providing sound technical information. To respond to emerging water quality issues, the Clean Water Act should be amended to require that:

1. USEPA submit to Congress a five year schedule for accelerating revision and development of water quality criteria, updating it annually.
2. 304(a) criteria include implementation guidance on translating values into permit limits.
3. USEPA consult with the States in criteria development and revision.
4. In the absence of 304(a) criteria, USEPA may not disapprove State standards or NPDES permits implementing such criteria.
5. Air deposition violating standards is controlled and all USEPA programs comply with standards.

States should be allowed to adopt numerical *chemical and physical*, and/or *numerical or narrative* biological standards for toxics.

**Rationale:** While the existing framework for developing standards is adequate, USEPA needs to expand 304(a) criteria development. Each should include meaningful implementation guidance, since there are many outstanding issues and vagaries about translating criteria into permits, e.g. application of mixing zones and criteria in wet weather. USEPA should not inhibit State ability to accommodate advancements in science. Significant differences in risk assessment within the scientific community, USEPA programs, and other Federal agencies need attention.

The States should continue to review and revise WQS on a triennial basis. Given diverse natural environments, WQS need to be tailored to meet specific situations. Federal 304(a) criteria should not presumptively apply, because they prevent innovative and more aggressive approaches which improve upon the national program. State adoption is also more effective, since implementation is greatly expedited through the State promulgation/education process. States should be able to adopt either numerical or narrative criteria (if the latter is translated into numerical permit limitations) for each has distinct advantages). USEPA needs to continue to approve State WQS to assure interstate compatibility and compliance. However, regulation of water quantity should continue to be the sole prerogative of the States.

### II. MONITORING (Section 303)

The Act should identify a lead Federal agency to coordinate Federal monitoring programs in order to eliminate duplication and use resources much more efficiently requiring:

1. The lead Federal agency to identify a comprehensive program using States as the primary data collection and compilation mechanism, with Federal grant support to identify trends under 305(b).
2. USEPA to report to Congress on the status of the nation's waters and problem water bodies.

3. All Federally supported projects related to nonpoint sources should allocate adequate funding for water quality monitoring and assessment.

**Rationale:** States need to have ultimate responsibility to determine the scope of their monitoring programs. They should have a balanced program, with both problem detection and trend analysis. Federal monitoring activities are not well coordinated, causing gaps and duplication. As resources become severely constrained, efficient and effective use of their expenditures becomes critical. States should be more actively factored into Federal program development and data collection to reduce costs and strengthen Clean Water Act programs.

### III. GEOGRAPHIC TARGETING AND 305(b) REPORTS

**Targeting:** The Clean Water Act should strengthen and expand State Management Plans under Section 303(d) to incorporate Section 304(l), 319, 320, and other programs as appropriate.

1. The geographic management areas identified under 303(d) should drive permit issuance, nonpoint source controls, monitoring, and other management decisions, including funding allocations. USEPA should work with the States to develop guidance to facilitate the ranking process.
2. USEPA, USGS, and NOAA should be required to utilize State ranking to ensure that their monitoring programs cover priority watersheds.
3. The geographic management areas identified under 303(d) should be reported to USEPA in the 305(b) and basin planning process.

**305(b):** The Section 305(b) Report to Congress should be required once every five years and cover Section 314, Clean Lakes.

**Rationale:** Pollution control priorities and strategies are being established via many relatively independent ranking processes with over 15 funding sources which results in fragmentation and inconsistency. Geographic targeting should be encouraged.

Water quality trends change slowly. Rather than using limited resources to report water quality status every two years under 305(b), a more efficient and meaningful assessment should be conducted every five years. The current law has States and USEPA starting the next reporting cycle without sufficient time to develop improved and more consistent assessment and reporting methods.

## POINT SOURCES, COMPLIANCE AND ENFORCEMENT

### I. CONTROL STRATEGIES FOR TOXIC POLLUTANTS (Section 304(l))

ASIWPCA supports the control of toxicity from all sources impacting designated water uses. Future assessments should be conducted as part of the periodic 305(b) report. The 304(l) assessments were a one-time effort that should not be repeated. The control of toxic pollutants should become part of a comprehensive, integrated water pollution control program.

**Rationale:** Control of toxics must be an ongoing effort within a comprehensive program which considers all toxic pollutants and sources, utilizing the many existing authorities. Section 304(l) was a relatively narrow, one-time effort to control some toxics. Designated use impairments by other pollutants should not be relegated to a low priority.

## II. TECHNOLOGY BASED LIMITATIONS AND COMBINED SEWER LIMITS (Section 304)

The Act should mandate that USEPA timely publish and revise Section 304(b) regulations to:

1. Set aggressive deadlines for updating existing effluent limitations for industries not yet addressed.
2. Better define best available technology (BAT) to assure that categorical effluent limitations do, in fact, reflect advancements in wastewater treatment.
3. Revise as appropriate the factors currently set forth in 304(b) for BAT to address pollution prevention and waste reduction.
4. Establish guidance setting the minimum technology requirements for combined sewer overflows, considering site specific criteria and the need to avoid major retrofiting.

**Rationale:** Categorical effluent limitations are a regulatory cornerstone of the Act and the *primary tool* for working efficiently and equitably toward eliminating pollutant discharges. The majority of BAT guidelines are seriously outdated and of little value in the regulatory program. States are forced to rely on water quality standards to establish proper effluent limitations -- which is resource intensive. Strong updated guidelines will avoid the inefficiencies of ad hoc best professional judgements as well as the inconsistencies and negative incentives associated with that approach. They are the most effective means to accomplish pollution prevention, waste minimization, and recycling.

Federal guidance on technology based requirements for combined sewer overflows is needed to assure the Act's mandates are met. However, they need to be flexible and avoid costly retrofiting of facilities now providing adequate treatment.

## III. POLLUTION PREVENTION AND ZERO DISCHARGE (Section 101)

The USEPA should take *agency-wide* action to assure maximum progress toward pollution prevention and zero discharge of specific highly persistent, bioaccumulative substances. The Act should assure USEPA:

1. Prohibits under the Toxic Substances Control Act (TSCA) the production and use in the market place of specific persistent, bioaccumulative toxic substances. Priority should be placed on substances currently exceeding State/Federal action levels for fish flesh.
2. Lists toxics for which the discharge, emission, and release must be minimized in all media (air, water, waste management, etc.). The mandate should go beyond traditional technology or water quality based limitations to enable States to establish innovative regulatory programs.

**Rationale:** States and USEPA need to more efficiently and effectively protect the environment, since "end-of-pipe" solutions are only one mechanism. Chemical bans should be part of source elimination and a pollution prevention strategy. But, zero discharge necessarily means zero availability -- persistent chemicals, once in the environment, are likely never to be zero. The pollution prevention strategy, while rejecting certain notions of zero discharge, should emphasize the need for technological solutions to minimize the discharge of persistent toxics already in the environment.

## IV. ANTIBACKSLIDING (Section 402(o))

The Act should allow the removal or modification of permit effluent limits determined to be unnecessary because of errors in calculation, publication of new scientifically valid information, or determination that

a substance is not present after an appropriate monitoring period. The removal of a limit should not allow permittees to reduce the level of existing treatment technology.

**Rationale:** Application of antibacksliding requirements in the NPDES program needs to be clarified. Permits are being significantly delayed due to unnecessary conflicts between regulators and permittees who are reluctant to accept limits which will be impossible to change even though such action is justified. The policy has made it difficult for States to adopt and implement new water quality standards, discouraged facilities from performing better than permit limits require, and allocated scarce resources to unnecessary monitoring and compliance.

#### V. STORMWATER (Section 402(p))

The statutory deadlines for permit issuance should be revised to establish a realistic schedule that accommodates phased implementation of regulatory programs:

1. For municipal dischargers, controls that reduce discharges to the *maximum extent practicable* should be required and are consistent with the mandate that water quality standards be met.
2. For industrial dischargers, the first round permits should require implementation of *BMPs*.

Permits should not be required for municipalities less than 100,000 population, unless a particular stormwater discharge is a significant contributor to pollution or the town is served by a separate stormwater system with a total population of 100,000 or more. Nor should they be required for industrial indirect discharges to a permitted municipal separate storm sewer, unless the discharge is in violation of local requirements and an individual stormwater permit is needed.

Following implementation of these controls, water quality assessments should be conducted to determine if additional controls are required in subsequent permits to meet water quality standards.

**Rationale:** ASIWPCA supports the Act's stormwater control objectives. The most significant sources should be addressed first. However, the extensive time taken to finalize the USEPA rules makes the statutory deadlines unachievable. The Act's strategy of phased implementation is threatened, since the moratorium from permitting second priority sources is fixed by statute, while the deadline for first priority sources (industry, large and medium municipalities) has been extended. The Act should clarify that the first round of permitting should emphasize specific control levels, followed by water quality assessment to identify needed additional actions based on standards. This will assure that permitting proceeds in a logical and expeditious manner.

Stormwater requirements should not overwhelm and undermine State permit programs. This is important since the number of NPDES sources will increase over ten times above current levels. The resource demand far exceeds any likelihood of increased funding and expected water quality benefits. Unless action is taken to focus the program, major cuts in other programs -- including toxics controls - must occur to carry out the stormwater requirements.

#### VI. PRETREATMENT (Section 307)

The Clean Water Act should require USEPA to establish aggressive deadlines for updating the existing categorical standards for pretreatment industrial categories reflecting best available technology economically achievable (BATEA), as well as including pollution prevention and waste reduction measures. POTWs should not be required to develop local limits analogous to effluent guidelines (EGL) for industries not covered by EGL. The domestic sewage exclusion should not be eliminated.

**Rationale:** EGLs are critical to POTWs' ability to meet water quality based effluent limits and need to be developed by USEPA. POTWs do not have the expertise to develop analogous limits so that all indirect dischargers to municipal systems are covered, nor is that necessary. The domestic sewage exclusion should not be eliminated because the current system of statutory requirements works. Elimination would create major problems for local POTW pretreatment administration and lead to a rigid bureaucratic system that would not deal with mixed wastes any more effectively than the current system. The exclusion gives States and POTWs needed flexibility to make appropriate decisions.

#### VII. TEN YEAR PERMITS (Section 402(b))

Up to a ten year NPDES permit term is desirable for some sources, considering that those permits will be re-opened for good cause, e.g. revision of effluent guidelines, changes to the water quality standards, or identification of water quality problems.

**Rationale:** Many permits need no changes from one 5-year cycle to the next. Yet, scarce and valuable resources -- which could be devoted to far more important permit issues -- must be used to prepare applications and go through the full permitting process. General permits are only a partial solution, because some permits must have water quality based limits. Tying reissuance to changes in technology or standards is more efficient and protective of the environment.

#### VIII. STATE ENFORCEMENT AUTHORITY (Section 309)

Clean Water Act reauthorization should provide delegated States the authority to file suit under Section 309, using NPDES permit authorities in Federal court. States should not be required to have monetary civil penalties identical to USEPA's. The ultimate goal is compliance and States have a variety of mechanisms in addition to penalties to accomplish that.

**Rationale:** The Act should give States greater enforcement capability. The best enforcement action is the one (alone or in combination) that produces and maintains compliance most efficiently and effectively. Tools in the States' enforcement arsenal are more expansive than USEPA's -- including moratoriums, closures, prohibitions, bans on expansions, etc. -- can be even more effective in achieving compliance than civil penalties.

#### IX. VESSEL DISCHARGES (Section 312)

The Clean Water remove prohibition against States regulating discharges from vessels should be removed.

**Rationale:** All other sections of the Clean Water Act not only allow, but require States to be more restrictive than Federal requirements if needed to protect water quality. Section 312(f)(1)(A) prohibits the option. The objective of fishable, swimmable waters is, therefore, precluded. Studies have shown that bacteria counts from vessels are high and the vessel population in some States is increasing 10% per year. The law also works against use of the Federal Sport Fish Restoration Fund for State pumpout facilities.

## NONPOINT SOURCES

### I. RESEARCH (Section 105)

The Act should be amended to clarify that nonpoint source (NPS) research and development needs more attention related to NPS best management practices, removal of toxic pollutants, simpler treatment alternatives for smaller communities, cause-effect impacts, improved monitoring, analytical and modeling techniques, health and aquatic effects, and relationships between air, water, and land pollution. The necessary funding should be authorized and appropriated.

**Rationale:** State and local programs need more Federal research on development of control technologies, establishment of standards or criteria, and better analytical tools.

### II. NATIONAL PROGRAM ELEMENTS (Section 319)

A stronger framework should be established to implement NPS programs requiring:

- 1) Adequate Federal funding for NPS control and State management.
- 2) USEPA to increase public awareness, develop good science and regulatory/economic incentives, and issue guidance for evaluating State programs. The guidance should address source categories to cover, evaluation criteria, methods to estimate reductions in NPS loads, evidence of necessary local government authority/involvement, and critical habitat/ecosystem protection.
- 3) States to:
  - \* Identify priority watersheds, set goals, and establish implementation mechanisms with schedules and a monitoring program in 30 months.
  - \* Evaluate progress towards meeting water quality standards within 48 months after program approval. (After 1995, Federal funding should be contingent upon an approved plan.)
  - \* Update the program as needed to address water quality violations within 12 months after evaluation (and every 5 years thereafter).
- 4) Federal agency activities and programs to be consistent with State plans.

To achieve these objectives, more funds and more efficient delivery systems are needed. A 6-8 year period will be required to upgrade the effort and evaluate success. The present process of State work plan development and review under which USEPA reviews all projects in State work plans is not manageable at increased funding levels. State use of 319 funds should be solely based on a USEPA approved NPS implementation plan (NIP). Grants or loans distributed by States should be structured to require appropriate local commitment.

The range of problems eligible should not change. However, the type of activities covered by grants for implementation should include, but not be limited to, the following: planning, assessment, demonstrations, enforcement, technical assistance, education and training. Institution of local programs should be eligible. States should be able to use up to 20% or \$200,000, whichever is greater, to manage implementation, including developing the NIP and updating 319 plans. The setaside for USEPA administration should not exceed 5% of funds appropriated. [See Funding for authorization levels, match requirements and formula.]

**Rationale:** The majority of existing water quality problems stem from NPS pollution. This requires careful attention to land use management. Because NPS control must take into account local conditions, States need to continue their lead role in program development and management. However, changes in the Act are needed to achieve environmental results and mandates must be accompanied by State flexibility, new long term funding, and Federal consistency requirements.

NPS control will be a long term undertaking comparable to point source control, but with a much higher level of intergovernmental cooperation. Section 319 management plans provide the framework of priorities a myriad of agencies at all levels of government need to implement. Progressively, the program should incorporate needed mandatory assurances, technology transfer, technical assistance and education programs. Efforts must be broadened to address the importance of physical habitat, including restoration and conservation of buffer zones adjacent to streams and wetlands. Pollution prevention and source reduction are also essential and nutrient management plans are appropriate, especially for agriculture. Reduction of NPS pollution will require source control at the watershed level. The major local responsibilities need to be recognized. Groundwater and surface water quality protection objectives should be integrated in the NPS program.

## STATE REVOLVING LOAN FUND

### **I. GRANT PAYMENTS - Administrative Costs and Planning Setasides (Section 601(b))**

**Payments:** Payment of Federal capitalization grants must be in cash.

**Administration:** The 4% limitation on SRF administrative costs in Section 603(d)(7) should be based upon the appropriated amount, but no less than authorization level, with a minimum of \$400,000 in Federal assistance per State. It should apply only to the Federal contribution, i.e. not to loan repayments or other money deposited in the Fund.

**Setaside:** The Act should clarify that the 40% pass for local agencies in Title II (Section 205(j)) does not apply to State planning under Section 604(b).

**Rationale:** The 1987 Act envisioned cash payments to the State Revolving Loan Fund (SRF), stating that "all funds... will be expended in an expeditious and timely manner". Cash needs to be fully available to effectively promote creative financing, allow modest interest earnings to help the already undercapitalized SRF, and minimize operating costs. But, USEPA and the Office of Management and Budget developed the Letter of Credit to delay cash draw.

4% of the capitalization grant is the only money in the SRF that can be used for program management. After FY 1994, this amount will be "zero". Congress intended that the Fund be self-sustaining and, therefore, should allow States to fund the reasonable costs of administration. A minimum is needed for States with very small allotments. States should not be required by USEPA to pass through 40% of 604(b) funds, since the Act does not specifically state this. Federal funds for States are diminishing and flexibility is needed to allocate funds to priority problems.

### **II. CROSS-CUTTING AND TITLE II REQUIREMENTS (Section 602)**

Federal requirements *not specified in Title VI* should not be imposed on local communities. The Title II 20% limitation on the use of funds for nonpoint sources, major rehabilitation projects, combined sewer overflows, and collector sewers (Section 201(g)(1)) should not apply to the SRF. In addition, while the Association recognizes the value of some Title II objectives, States should have the discretion to apply

these goals as appropriate to individual projects. In the absence of obtaining this type of flexibility, the following modifications to Section 602(b)(6) are necessary:

1. Delete Section:
  - \* 201(g)(1) on the 20% Limitation
  - \* 201(g)(5) on Innovative/Alternative Analysis
  - \* 201 (6)(g) on Recreation/Open Space Requirements
  - \* 513 on Labor Standards Provisions
2. Delete the word "proportional" in Section 204(b)(1), User Charge Requirements
3. Delete mandatory requirement to perform value engineering in Section 218, Cost Effectiveness

**Rationale:** Every Title II regulation, Federal law and Executive Order should not apply to "funds directly made available by capitalization grants", due to increased project costs, cleanup delays, and decreased SRF competitiveness. The SRF was created to fund projects broadly eligible under Sections 212, 319 and 320 of the Act. Application of the 20% cap from the defunct grant program to the SRF prevents financing facilities which are important to protecting water quality (Section 602(b)(6)).

### III. LAND ELIGIBILITY (Section 603(c))

Acquisition of land, easements and rights of way should be an eligible SRF cost.

**Rationale:** The current exclusion is a holdover from the defunct construction grants program. Land, easements and rights of way can be a substantial portion of facility costs. For communities, the SRF needs to provide "one stop shopping".

### IV. LOAN AMORTIZATION PERIOD (Section 603(d)(1)(B))

The 20-year loan repayment period should be extended to 30 years generally and up to 40 years in financial hardship situations to make the SRF more competitive with other financing sources and reduce the need to erode the Fund corpus with deep discount interest rates.

**Rationale:** Local officials pay close attention to annual costs during the early years of loan repayment, i.e. during their expected term of office. Unless States can substantially reduce SRF interest rates, they cannot compete with a 30-year market rate. And, in smaller communities, affordable rates are difficult even with 0% interest (see Small Communities).

### V. FEDERAL OVERSIGHT/REVIEW AND THE SINGLE AUDIT ACT

**Oversight:** USEPA and Inspector General oversight should end within a reasonable period after the last deposit of Federal money in the SRF. The following schedule is recommended in Section 606:

- \* Intended Use Plan Review -- One year after last capitalization grant.
- \* Annual Report -- One year after last draw of Federal money.
- \* Annual Review -- Two months after last annual report.
- \* Annual Audit -- Two years after last draw of Federal money.

**Audits:** States should be able to use the Single Audit Act to satisfy requirements of Section 606(b).

**Rationale:** The law currently contains *no provision* to end Federal oversight and review of the State programs after the capitalization period. Congress intended that the SRF be a State program. The 1987 Act requires annual audits as necessary or appropriate. States should be able to use the Single Audit Act, which is *the method* for auditing Federal funds.

#### VI. USE OF GRANT FUNDS AND TITLE II CLOSEOUT

Title II deobligations and reallocations should be available for SRF use. The already limited SRF administration funds should not be used to close-out the Title II Construction Grants program (Section 607(b) and 603(d)(7)).

**Rationale:** States should be able to use deobligated and reallocated Title II funds in their SRFs, regardless of the year of origination. SRF administration funds are inadequate for long term fund management. And, it is inappropriate for the SRF or its client municipalities to assume the costs of closing out the Federal grant program.

#### VII. NEEDS SURVEY (Section 516)

A credible survey of all municipal needs eligible for SRF financing should be undertaken periodically.

**Rationale:** The current Needs Survey does not focus on the increased eligibilities under the 1987 Act mandates, such as toxics, sludge, nonpoint source and stormwater control. Given their potential magnitude, it is necessary to provide credible data for national policy and sound capital planning.

#### VIII. Expanded Eligibility For Water Supply Facilities (Section 603)

The Association could support appropriation of supplemental funds for water supply projects and, for the short term use of the Title VI SRF as the vehicle for distribution of these funds. Furthermore, an "SRF type mechanism" should be considered as the best long term vehicle for funds distribution. However, such funding must be in addition to existing Clean Water Act appropriations, and not demean the integrity of the Clean Water Act SRF. Specifically in the short and long term:

1. Additional funding must be authorized and appropriated above the \$5 Billion level recommended for Clean Water Act needs under the Title VI SRF program.
2. States must have the flexibility to establish separate SRFs, develop separate funding priorities or include water supply project funding under existing Title VI SRFs.
3. There must be separately identifiable Federal funding sources for both the Clean Water Act and Safe Drinking Water Act assistance programs.

In the long term, a Safe Drinking Water needs development process must be established to provide Congress and others with information on funding levels to support the program with expanded eligibilities.

#### SMALL COMMUNITY ASSISTANCE

Small communities in high economic need require special assistance *through the SRF* and should be exempt from some requirements. A new competing Federally administered program should not be created. Amendments should be enacted defining State hardship criteria and providing:

- \* Additional authorized funds to blend as a principal subsidy with SRF loans,
- \* Exemption from Title II and Federal cross-cutter requirements,
- \* Up to 40 years for repayment of loans less than \$10 Million,
- \* Use of SRF funds for State small community outreach and technical assistance, and
- \* Land and easements as eligible costs.

States should be able to set the population threshold for defining "small community", up to 10,000.

***Rationale:*** Over 33% of identified SRF projects are for small communities. But, in some cases low interest loans will not, alone, provide affordable assistance due to economic hardship. Additional assistance is best provided by an existing State administered program. Collectively, the recommendations above will enable the SRF to accommodate these communities. The definition of "hardship" should account for State diversity, e.g. a standard based on the national (vs. State) median household income will not suffice.

## WETLANDS

States and localities need an explicit and well thought out partnership role in the Clean Water Act to ease assumption of greater responsibility and more active participation in wetland protection and management. Many of the changes needed in the present Section 404 Federal role could be achieved administratively under existing law. However, a separate new section of the Act is needed to clearly establish State and Local roles as well as define protection policies and goals. State and Local governments need to integrate wetland protection into pollution control and watershed management. The Association endorses the concepts adopted by the National Governors' Association in February 1992 and will further refine the concepts to more specifically address a lead Federal agency, funding, and State assumption.

1. National wetlands protection policy should vigorously abate the loss of wetlands and achieve no net loss by preventing avoidable or significant impacts, and restoring when feasible quantity and quality. If impacts are unavoidable, wetland losses should be minimized and fully mitigated. Due to the severity or significance of some projects, mitigation may be inappropriate, and applications should be denied.
2. Federal statutes/programs should be amended to strengthen wetland protection and avoid duplication. Lead responsibility should be placed in one Federal agency, with other agencies having implementation duties. Federal permitting should be streamlined under one agency -- mandated to protect wetlands. Acquisition programs should be expanded and improved. The Federal government should provide guidance, research, public education and other information. States should have primary responsibility to implement effective protection strategies, with broad flexibility based on legal, environmental, social and economic considerations. They should develop comprehensive inventories, expand public education, and train local officials. Federal wetlands legislation should:
  - \* Address inconsistencies and shortcomings of protection programs, e.g. in USEPA, Army Corps of Engineers, Department of the Interior, and Department of Agriculture.
  - \* Promote delegation and provide adequate financial/technical support to the States.
  - \* Ensure Federal funds are not provided for activities which result in avoidable wetlands conversion.
3. In the event that water quality standards for wetlands are developed and incorporated into State water quality management programs: these standards should be designed to recognize unique features

intrinsic in wetland resources, USEPA should allow use of narrative and site specific approaches in lieu of numeric standards, and levels of protection should be based upon the importance and significance of wetlands to States in which they are located.

**Rationale:** Wetlands are an extraordinarily valuable resource, critical to the hydrologic system. Despite relative scarcity, they continue to be destroyed at an alarming rate and protection programs continue to struggle. Federal programs, while slowing the rate of loss, have fallen short of providing needed protection, even though feasible alternatives exist. They need to be reinforced and enhanced,

## GROUNDWATER

Groundwater protection should be an integral part of State and Federal water quality protection programs. Components may include regulatory authorities for point and nonpoint sources, monitoring, data management, standards and remediation programs. Programs should be based on protection of groundwater as a resource. A national goal established to protect human health and the environment by preventing groundwater pollution and remediating wherever necessary and appropriate.

1. Existing authorities should be coordinated to ensure that groundwater is not degraded or harmful to human health and the environment. Because groundwater is highly variable, States must maintain the primary responsibility for management, in partnership with the Federal government.
2. All Federal agencies, facilities, and contractors must comply with State groundwater laws.
3. Water quality protection programs must address both surface and groundwater media.

Any inclusion of groundwater in the Act should formalize the following processes:

- \* States and USEPA should jointly define State program adequacy.
- \* States should develop groundwater strategies consistent with that definition. Determination of adequacy of a comprehensive program should be the State's responsibility.
- \* USEPA should provide funding to States for program development and implementation.
- \* The Federal government should review their remediation programs and increase funds for comprehensive groundwater pollution prevention where appropriate.

At a minimum, the Federal government should provide incentives for States to develop comprehensive programs by:

- \* Providing more State flexibility in implementing Federal regulatory programs.
- \* Allowing greater flexibility in the use of all USEPA groundwater related grant money.
- \* Developing a comprehensive strategy for all Federal groundwater programs.
- \* Reducing USEPA oversight.
- \* Requiring Federal facilities, contractors, programs etc. to comply with all State requirements.
- \* Requiring Federal agencies to utilize State groundwater priorities in targeting programs/projects.

CERCLA Trust Account funds should be available for State groundwater protection activities upon USEPA endorsement of a State's core Comprehensive State Ground Water Protection Program.

**Rationale:** Incorporation of groundwater into Clean Water Act goals will eliminate the need for prescriptive groundwater legislation. Enforcement of State laws is currently hampered because Federal agencies sometimes claim sovereign immunity, because groundwater is not included in the Act.

Federal groundwater requirements should not be prescriptive. The above steps will eliminate the need for extensive national groundwater legislation or amendments to existing environmental laws and will promote multi-media resource management. A formal mechanism is needed to coordinate the many Federal groundwater initiatives.

## FUNDING

### **I. STATE MANAGEMENT ASSISTANCE (Section 106)**

States are implementing the mandates of the Act to the maximum extent possible. However, with increased requirements of the 1987 Amendments (stormwater, toxics, nonpoint source, etc.), there is a serious funding shortfall which must be addressed through increases in 106 funding, establishment of an equitable fee system, and continuation of State revenues.

**106 and Permit Fees:** The Section 106 authorized level should be increased and discretionary USEPA setasides should be eliminated. Grant policy and awards should be expeditiously processed consistent with State planning/work cycles. Federal match requirements should be phased in over 3 years and any level of effort (LOE) requirements should be based on the current level of State general appropriations in terms of dollars. The LOE should be maintained unless there is an across-the-board State budget reduction.

The Act should provide a Federal permit fee structure with exemptions for State programs with equivalent total receipts. USEPA should impose fees only if States fail to do so. Fees assessed by States should be retained for broad use in their water programs. States should be able to use those fees to meet their 106 matching requirements.

**Consolidation:** To support comprehensive programs, the Act should fold the proliferation of entitlement grants, setasides, and earmarks into Section 106. Accommodation should be made for differences in regional/State priorities (see Targeting) to achieve environmental results. Congressional priorities should be incorporated into negotiated State work plans vs. using setasides.

**Rationale:** While States support the statutory mandates, inadequate funding of new and existing requirements is adversely affecting their capabilities. For FY92:

* Cost of Operating Basic Activities	\$475 Million
* Additional Costs of Implementing 1987 Amendments	230
<hr/>	
TOTAL CLEAN WATER ACT PROGRAM COST	705
Estimated Funds Available [Federal, State, other]	300

#### Shortfall

**\$405 Million**

*These are conservative estimates. Any further requirements or desire to "cost out" USEPA regulations (e.g. stormwater) would significantly add to the total.*

The Act, in many sections, establishes authority for appropriations. Section 106, however, has historically been the framework to carry out mandates and has the proven capability to direct resources efficiently to priorities. State funding is now provided through over 15 grant programs, e.g. Section 104(b)(3), setasides in Section 106 and Title VI, etc. Each has a different bureaucracy, match requirements, policy documents, eligibility criteria, and application/reporting requirements. The end result is extensive delays in grants and program activities, and inconsistent support for Clean Water priorities. Balkanization does not promote preventing pollution, reducing risks, achieving environmental results, or minimizing adverse inter-media impacts.

## II. SRF CAPITALIZATION AND CONTINUATION OF TITLE II GRANTS (Section 607)

**SRF:** Current SRF eligible needs resulting from the 1987 Act (including nonpoint source, stormwater, combined sewer overflows, sludge, and toxics control) go far beyond the previously existing wastewater infrastructure program upon which the \$18 Billion commitment in the 1987 Act was based. They are likely to exceed \$200 Billion. Federal appropriations fall short of the capitalization level needed.

**FY 1993-1994:** To fulfill the basic 1972 Clean Water Act requirements Congress should appropriate at least \$2 Billion annually for the SRF program for traditional wastewater treatment needs.

**FY 1994-2000:** A minimum of \$3 Billion should be appropriated annually through the year 2000 for the new compliance needs added in the 1987 Act.

Therefore, a total appropriation of \$5 Billion annually, until the year 2000, is needed to meet current Clean Water Act eligibilities. The inclusion of water supply facilities assistance in the Title VI SRF would require additional funding (see page 10).

**Grants:** ASIWPCA opposes re-establishing a Title II type grant program. The \$18 Billion authorized for SRF capitalization must first be fully realized and the SRF capitalized sufficiently to cover the additional infrastructure requirements created by the 1987 Clean Water Act. If Congress is intent on grants, they should go to State SRFs for agreed upon purposes, e.g. to revolve as long as needed for CSO needs.

**Rationale:** The SRF was conceived to meet infrastructure needs under the pre-existing law. \$18 Billion in Federal capitalization funds (FY86-94) and the State match may provide adequate seed money to address those needs, but it is grossly inadequate to meet the 1987 Act mandates. Of the \$138 Billion in documented needs that States have identified, up to \$91 Billion relate to emerging priorities. The SRF has proven to be an efficient and effective use of scarce Federal dollars in meeting municipal infrastructure needs *in perpetuity*. It should not be abandoned for a grant approach that the 1981 and 1987 Amendments concluded, for good reason, was inadequate.

1. A Federal grant program is a poor mechanism to meet the over \$135 Billion in needs.
2. Grants undermine the integrity of the SRF. States have worked hard to educate and convince communities to accept and participate in the SRF program.
3. Compliance will be delayed. Even a remote possibility of grants encourages towns to wait. It sends a poor message to those trying to meet the law -- reinforcing the appearance that if a community puts off solving their problems, the Federal government will come to the rescue.
4. Fiscal hardship situations can be addressed *in the SRF* (see Small Communities).

## III. NONPOINT SOURCE MANAGEMENT PROGRAMS (Section 319)

Current SRF eligibilities should be retained to allow for coverage of NPS projects. The Section 319 program should continue to cover NPS program implementation costs not reasonably addressed through the SRF. The long term State goal is to move the NPS program to a point where it can be integrated into Section 106 and SRF structures. In the interim, annually the following should be authorized under Section 319:

FY 1994-96, \$500 Million

FY 1997-98, \$1 Billion

- \* A set distribution formula should be used for the States -- with no national setaside for "beauty contests" (i.e. competitive projects at the USEPA level).

- \* The existing 40% match should be retained.

[See Nonpoint Sources regarding the use of those funds]

**Rationale:** The nonpoint source management plans, demonstration projects, and program development envisioned in the 1987 Act have not been completed. Appropriations have been well short of authorizations, and must be increased if the accomplishments so far are to be maintained and expanded, consistent with water quality objectives. However, demonstration projects will not accomplish the needed water quality improvements. If the program is going to produce the needed results, States must have the ability to establish and maintain long term, consistent programs.

#### IV. CLEAN LAKES (Section 314)

A level of support in the amount of \$10 Million annually will assure the minimum level necessary for progress in lakes management.

**Rationale:** Section 314 of the Act should be funded at a level which recognizes the key role the Clean Lakes Program plays in achieving beneficial uses. Appropriations should be sufficient to support continued assessment, identification and implementation of methods to restore lake quality.



A S I W P C A

Association of State and Interstate  
Water Pollution Control Administrators  
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(202) 898-0905 • Fax (202) 898-0929

March 29, 1993

The Honorable Bill Clinton  
President of the United States  
The White House  
1600 Pennsylvania Avenue  
Washington, DC 20500

Dear Mr. President:

The ASIWPCA appreciates your attention to the States' critical need for water infrastructure financing. The States strongly support your proposal to provide \$845 million to the Clean Water Act state revolving loan funds (SRFs) as an economic stimulus in fiscal year 1993; 1) to extend funding for SRFs through fiscal year 1997; and 2) to finance a new revolving fund for drinking water. To assure the long term health and continued effectiveness of the Clean Water Program the States urge you to consider the following revisions to your proposal.

- 1) A minimum fiscal year 1994 appropriation of a full \$2 billion to the Clean Water Act SRFs.
- 2) A full \$1 billion for the drinking water revolving fund. The \$845 million in proposed stimulus spending should be in addition to a \$2 billion fiscal year 1994 SRF appropriation. Stimulus spending should represent a real increase in funding, not merely accelerated spending of fiscal year 1994 funds in fiscal year 1993.

A \$3 billion annual funding level for wastewater and drinking water treatment is clearly justified by documented needs in both programs. ASIWPCA, for example, has identified in excess of \$10 billion in immediate project needs. To ensure sufficient appropriations in fiscal years 1995-97 it is important to establish a \$3 billion baseline in fiscal year 1994.

In addition, States call on you to assure that all wastewater infrastructure is funded through the Clean Water Act SRFs. SRFs provide sustainable long-term funding, have low administrative costs and a 50 percent faster payout rate than categorical grants, and provide incentives to local government to reduce costs and develop appropriate user fee systems.

ASIWPCA appreciates your consideration of our recommendations and we look forward to having the opportunity to work with you and members of your staff to implement the Clean Water Components of the Stimulus package. Please feel free to contact our Executive Director, Roberta (Robbi) Savage if additional information is desired, 202-898-0917.

Sincerely,



Don Ostler  
President  
Association of State and Interstate  
Water Pollution Control Administrators

cc: ASIWPCA Membership  
Senator Max Baucus  
Representative Norman Mineta  
Administrator Carol Browner, EPA



RECOMMENDATIONS OF THE  
COASTAL STATES ORGANIZATION, INC.

ON THE  
REAUTHORIZATION OF THE CLEAN WATER ACT

Before The  
Water Resources Subcommittee  
House Public Works & Transportation Committee

David C. Slade  
Director

March 31, 1993

COASTAL STATES ORGANIZATION, INC.  
*Representing the Governors of the Thirty-five Coastal States,  
Territories and Commonwealths on Coastal, Great Lakes and Ocean Affairs*

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Mr. Chairman, and members of the Subcommittees, my name is David C. Slade. I am the Executive Director of the Coastal States Organization, a representative association of the Governors of the 35 coastal States, Commonwealths and Territories on coastal, Great Lakes and ocean affairs. I am pleased to be here today to present our views on the Reauthorization of the Clean Water Act.

The Coastal States Organization has deliberated for many months on the reauthorization of the Clean Water Act. Forging an agreement among the divergent views on the many issues involved posed a formidable challenge to the organization. Among the coastal States there are several issues where there simply was no consensus on the proposed changes to the Clean Water Act. Nevertheless, after many long sessions there are several areas upon which the States are now able to agree. These areas pertain to:

- Contaminated Sediments;
- Combined Sewer Overflows;
- The National Estuary Program;
- Nonpoint Source Pollution Control; and
- Wetlands.

The following discussion presents our detailed proposals for amending the Clean Water Act.

## CONTAMINATED SEDIMENTS

The COASTAL STATES ORGANIZATION recommends that the Clean Water Act should be amended to:

- Clarify that State water quality standards which are more stringent than federal requirements are controlling for all activities involving the dredging or disposal of sediments;
- Clarify that States have the authority to establish clean-up standards for contaminated sediments so long as those standards are as at least as stringent as federal requirements;
- Ensure a State role in the development of management or restoration plans for contaminated sediments;
- Develop programs and provide assistance to the States through those programs for preventing sediment contamination;
- Encourage through federal financial and technical assistance the development and utilization of innovative technologies for contaminated sediment remediation.

### RATIONALE:

Throughout the nation, coastal States are engaged in disputes with the Army Corps of Engineers over the protection of the aquatic environment from the harmful effects of the dredging of contaminated sediments. These disputes center around the Army Corps' Dredging Operating & Maintenance regulations.

In 1988, the Corps promulgated regulations which State that for operational dredging and maintenance activities, the Corps will set a "Federal standard" based on the "cost, beneficial uses of dredged material and the environment." The environmental requirements which the Corps will consider are only those which are federal environmental requirements, even though the Clean Water Act incorporates State requirements as federal law. The Corps also maintains that if the State "insists on requirements which, in the opinion of the district engineer, exceed those required in establishment of the Federal standard, the [State] agency will be asked to fund the difference in cost."

Under the Clean Water Act, States have the primary authority to protect water quality. Federal agency activities should be required to comply with State water quality standards. We ask that Congress make it indisputably clear that the Corps must comply with State water quality standards and section 401 State certification procedures, not as a matter of "comity" but as a matter of law.

COMBINED SEWER OVERFLOWS

The COASTAL STATES ORGANIZATION recommends that:

- Correction requirements for combined sewer overflows should be based on the water quality impact, an assessment of the resource and habitat benefits, the feasibility of elimination, abatement alternatives, a comparison of elimination and alternatives costs, the financial resources of the responsible governmental entity, and availability of federal financial assistance;
- Federal assistance for combined sewer overflows abatement should include assistance for a full range of alternatives including, but not limited to, pretreatment, best management practices, and stormwater and watershed management;
- EPA should be required to establish a clearinghouse to make available information on and provide technical assistance for controlling combined sewer overflows;
- Technology-based standards relating to the control of specific storm events should not be mandated through the Clean Water Act.

RATIONALE:

The severity of combined sewer overflow water quality problems varies according to the composition of the overflow and the characteristics of the receiving waters. A combined sewer overflow abatement program should be tailored to the circumstances unique to each sewage-stormwater system. Remedial projects should be undertaken in priority order focusing first on those systems causing the most environmental damage.

Mandates to control combined sewer overflows should not be arbitrarily imposed without regard to receiving water use impairments or violations of water quality standards. The better and far less expensive strategy is to implement only those combined sewer overflow abatement measures which will result in attainment of water quality standards. The precise mix of combined sewer overflow control measures will vary depending upon local conditions.

The magnitude of the problem along with the fiscal crisis many local and State governments already face has created an essential need for greater federal financial assistance to abate combined sewer overflows.

## NATIONAL ESTUARY PROGRAM

The COASTAL STATES ORGANIZATION recommends the following changes to Section 320 of the Clean Water Act:

- NOAA and State CZM agencies should be specifically included as participants in management conferences;
- In considering nominations for the designation of estuaries of national significance, priority consideration should be given to those estuaries represented in the National Estuarine Research Reserve System;
- Relevant enforceable polices of CCMPs, as determined by a State's coastal management agency, should be incorporated into federally approved State coastal management plans;
- When necessary, extensions of management conferences should be allowed (up to five years) for plan development, and additional extensions allowed for plan implementation;
- There should be a continuing federal responsibility for plan implementation;
- CCMPs should include specific estimates on funding needs and a comprehensive strategy for least cost implementation;
- EPA and NOAA should be directed to submit to Congress on an annual basis a report containing cost estimates for implementing approved estuary management plans and recommended allocations of Estuary funds. Those recommendations should be based on each State's need, as identified in EPA's report, relative to all estuaries in the program.
- A separate funding authorization should be provided for assessment and characterization activities required under subsection (j) conducted by NOAA;
- Separate authorizations should be provided to EPA and NOAA for implementation activities. NOAA shall provide State coastal management programs with funds to implement management plans.
- Proposals to amend section 320 by prescribing specific actions for pollutant reduction in designated estuaries would not allow States the flexibility required to address pollution in accordance with the priorities established for each waterbody.

Title VI of the Clean Water Act, which authorizes grants for State Revolving Loan Funds, should be amended to:

- Authorize a set-aside (with a graduated increase from 2.5% to 10%) of SRFs for funding the implementation of NEP plans;
- Qualify States, which have approved CCMPs, for additional SRF funding to be used to implement CCMPs. These "Estuary Funds" would be provided in addition to a State's regular SRF allocation;
- Require States which have approved CCMPs to set up a special account within their SRFs to manage the disbursement of those funds and reduce State matching requirements from 20 percent to 15 percent; and
- Authorize States, which are implementing CCMPs, to utilize additional funding mechanisms designed to assist financially restricted communities, including but not limited to, extended loan amortization periods (up from 20 years to 40 years), no interest loans, and principal subsidies.

RATIONALE:

Greater Coordination Between the NEP and State CZM Programs - The most significant shortcoming of the NEP is the failure to institutionalize the NEP management plans. These plans contain recommendations, but do not contain enforceable policies.

An opportunity to institutionalize NEP management plans lies in their incorporation into State coastal management plans which are required to contain enforceable policies. The legislative history of the Water Quality Act of 1987 suggests that NEP management plans should be incorporated into State coastal management plans, but the extent to which this has been done varies. In some cases, the State coastal management agencies have not even been represented on the management conferences. A legislative directive is needed to ensure the full coordination between the NEP and State coastal management programs.

NEP Implementation Grants - Section 320 states that "Funds authorized to be appropriated under title II and VI and section 319 of this Act may be used in accordance with the applicable requirements of this Act to assist States with the implementation of such plan." In practical terms the amounts of money available to States for state-wide efforts under these programs is small and the portion of these moneys that a State could direct to their estuary programs would supply only a tiny fraction of the federal money required to leverage implementation action. Under the former Administration EPA's policy was not to provide funding for implementation activities. We believe, however, that after the development of CCMPs, the federal government cannot walk away and say that its participation is finished. If the NEP is to avoid repeating the mistakes made with other

planning provisions in the Clean Water Act, such as those under section 208, there must be federal assistance for implementation.

Separate Funding Authorization for CZM Activities in Fulfilling CCMPs - Effective coastal zone management programs are essential to the effectiveness of CCMPs. Federal "turf battles" over allocating funds should be avoided by explicit authorization for direct federal financial assistance to State coastal programs.

Maintaining a Flexible Approach to Water Quality Problems Through the NEP - Rather than prescribe specific measures to combat pollution in estuaries designated as of national significance, the National Estuary Program requires the convening of management conferences to decide what and how pollution problems can be best addressed. There is no single answer to abating water pollution within estuaries. A flexible approach is needed to address the various pollution problems around our nation's coast.

Although the initial results of the NEP are encouraging, it is premature to expand the geographic scope of the program to all degraded and threatened estuaries. Rather than spread limited federal and State resources over all degraded and threatened estuaries, efforts should concentrate on ensuring the success of the management plans currently being developed within the NEP.

## NONPOINT SOURCE POLLUTION

In the time since section 319 of the Clean Water Act was enacted in 1987, nonpoint pollution has gained even greater attention as a contributor to water quality degradation. Even while section 319 programs were being developed, Congress was retooling nonpoint source control efforts in coastal areas. The water quality provisions contained in section 6217 of the 1990 reauthorization of the Coastal Zone Management Act require State nonpoint source and coastal management programs to utilize both the best available technology (which is economically achievable) and water quality standards in coastal areas for controlling nonpoint sources. Those provisions establish ambitious objectives and mandate sanctions upon federal funding for nonpoint source and coastal management programs if those objectives are not timely met.

The COASTAL STATES ORGANIZATION recommends that Congress:

- Amend the sanctions provisions against CWA 319 and CZMA 306 to allow the Administrators of EPA and NOAA to have discretion to limit the use of sanctions only to situations of last resort. Good faith efforts on the part of States to meet section 6217 requirements should not be penalized, especially when adequate federal support for this mandated program has been lacking;
- Reconsider the appropriateness of sanctions if the technology-based requirements of the coastal nonpoint control program is expanded nationwide;
- Increase authorizations for nonpoint programs and expand the eligible uses of funds;
- Not require the development of a system for exchanging discharge credits between point and nonpoint sources of pollution.

### RATIONALE:

Implementation Deadlines for State Coastal Nonpoint Programs - Although the provisions of section 6217 of the Coastal Zone Act Amendments of 1990 set deadlines for program development, no timeframe requirements for implementation were prescribed. Nevertheless, EPA/NOAA guidance for coastal nonpoint programs require full implementation of management measures for all significant nonpoint sources within eight years of program approval. The magnitude of the problem of nonpoint pollution in coastal areas is at least equal to that of point sources, and the efforts to address those problems are likely to require a similar dedication of resources over a similar length of time. Congress should act through the Clean Water Act reauthorization to recognize the need for flexibility in timeframe requirements for implementing coastal nonpoint source programs.

Removal of Mandates for Sanctions - Congress should act to remove the mandate for sanctions against States which fail to develop approvable coastal nonpoint source programs. The federal

appropriation for the first two years of development of coastal nonpoint programs was \$2 million. This amounts to less than \$70 thousand dollars per State. Sanctions would be applied against all CZMA §306 and CWA §319 funding and the many uses to which these funds are put in meeting coastal management needs, unfairly penalizing other coastal program objectives for the reason of inadequate federal support for the development of State coastal nonpoint programs.

Discharge Trading Credits - While the exchange of discharge credits between point and nonpoint sources may have been successful in some instances, Congress should not adopt proposals to mandate States to develop discharge credit exchanges. The example that the Clean Air Act provides with its "bubble" allowances is not analogous to water pollution from point and nonpoint sources. The types of pollutants from point and nonpoint sources are usually dissimilar, and have different impacts on the aquatic environment. Moreover, such a system could be used to legitimize unwarranted increases in pollutant sources at a time when EPA is emphasizing pollution prevention.

## WETLANDS

The COASTAL STATES ORGANIZATION recommends that:

- Congress look with caution towards proposals to classify wetlands and recognize the distinction between wetlands classifications and ranking wetlands by value and function;
- Wetlands delineations be scientifically based upon regionalized criteria;
- Goals and objectives relating to wetlands protection be specifically stated for the section 404 regulatory program;
- Corps authorized mitigation projects be subject to State and federal resource agency review;
- Mitigation and restoration requirements be tailored to regional differences;
- The provisions of section 404 governing general permits be amended to include reporting and monitoring requirements, and notice to and opportunity for comment by State and federal resource agencies;
- The general permit provisions be further amended to clarify that general permits are not available for use within a State which has denied water quality certification or found the general permit to be inconsistent with enforceable policies contained in its federally approved coastal management program;
- States be encouraged with federal funding to assume the 404 program responsibilities and allowed flexibility in adopting their own programs;
- Congress encourage through federal financial and technical assistance the development of State wetlands conservation programs which identify wetlands by classification and function, and establish management strategies, timetables, and monitoring mechanisms for wetlands preservation, enhancement, and restoration.

## RATIONALE

Forging an agreement among the divergent views on wetlands protection poses the most formidable challenge of the Clean Water Act reauthorization. Even among the States, there appears to be no consensus on all of the proposed changes to the federal wetlands program. Nevertheless, there are some changes upon which the States are able to agree.

Wetlands Delineation Manual - The definition and delineation of wetlands should have a sound scientific basis. The taxonomic classifications of wetlands is already well established, though the ability to derive wetland values based on functions is less precise. Problems with the scope of the federal wetlands protection program should be addressed by recognition that some wetlands are deemed worthy of less protection than others, rather than redefining "wetlands."

Goals and Objectives of the Section 404 Program - As a regulatory program, the section 404 program is flawed in that it regulates with no direct goal or objective. The connection in the minds of the public between the Clean Water Act's goal of preventing water pollution and that of wetlands protection is not apparent. Explicit statutory language for the protection of wetlands is needed.

Mitigation - Although mitigation can be a useful tool for wetlands protection programs, close scrutiny is needed of the appropriateness of its use in off-setting wetlands losses and long-term effectiveness. The Corps should be required to solicit review of mitigation proposals by State and federal resource agencies.

General Permits - Circular reasoning pervades the administration of the Corps general permit program. The nationwide permits only authorize activities which have a minimal impact on the aquatic environment. Because the impact of authorized activities is minimal, the Corps finds that there is no need for reporting requirements for most of the nationwide permits, nor for monitoring. The Corps dismisses challenges to the validity to their assumptions by responding that there is no evidence that use of nationwide permits has resulted in adverse impacts individually or cumulatively. It is widely believed that the purpose of environmental protection through section 404 has taken a "back seat" to allowances for expediency through the nationwide permit program. Unreported and unmonitored activities authorized by the nationwide permit program number in the tens, if not hundreds, of thousands; yet, only anecdotal evidence is available about their impact. Although the assessment of cumulative impacts is a statutory requirement, it is doubtful that the Corps has ever considered cumulative impacts in the administration of the nationwide permit program. Reporting and monitoring requirements need to be statutorily mandated by the Clean Water Act.

State Authority Over Nationwide Permits - In the recent (January, 1992) reissuance of the nationwide permits, the accompanying program regulations qualify the scope and effect of State authority to review the nationwide permits. Under the regulations, the Corps has determined that it has the authority to decide which discharges are subject to State water quality certification authority. The Corps has also determined that where a nationwide permit has been denied, State water quality certification or found to be inconsistent with the State's federally approved coastal management program, the nationwide permit may still be utilized within the State so long as the permit applicant receives an individual certification or concurrence from the State first or waives its authority either expressly or by failure to act upon the application within 30 days. Furthermore, where a State has conditioned the use of a nationwide permit, the Corps has decided that it may treat those conditions as a denial by the State. The Clean Water Act should be amended to clarify that it is solely the prerogative of the State to determine which discharges are subject to

water quality certification authority and that no nationwide permits shall be available where a State has denied certification or found the nationwide permit to be inconsistent.

State Wetland Conservation Plans - Although the federal government maintains authority by virtue of its sovereign power to maintain the servitude over navigable waters, it is the States who have the primary interest over lands and waters that comprise wetlands. Both the States' sovereign and proprietary interests lie over these lands. The joint federal/State interest in protecting wetlands should be furthered through federal financial and technical assistance for the development of State wetland conservation plans. These plans should identify wetlands and associated uplands, contain management strategies, and provide monitoring, mitigation, restoration.

**Statement by Paul H. Woodruff, P.E.  
Chairman, Water Quality 2000 Steering Committee  
before the  
Water Resources and Environment Subcommittee  
Committee on Public Works and Transportation  
U.S. House of Representatives  
March 31, 1993**

Good morning, Mr. Chairman and distinguished members of the Subcommittee. My name is Paul Woodruff, and I am president of Environmental Resources Management, Inc., a consulting firm based in Exton, Pennsylvania with over 70 offices around the world. I founded ERM in 1977, and have over 30 years of experience in the water and environmental management field. I am also past chairman of the Government Affairs Committee of the Water Environment Federation, a 40,000 member non-profit educational and technical organization founded in 1928. I have served since 1989 as chairman of the Steering Committee for Water Quality 2000, and it is in this capacity that I appear before you today.

Water Quality 2000 is a cooperative effort of some 75 organizations, including industry, environmentalists, federal, state and local government, professional and scientific societies, and academics. Our mission is to "...propose and promote national policies and goals for the 21st century that will protect and enhance water quality, with a specific agenda for action."

The Clean Water Act is arguably our most successful environmental statute. Even so, implementation of water quality goals and policies has been complicated by conflict between competing interests, an emphasis on the short-term, and a patchwork quilt of narrow, sometimes conflicting laws and regulations.

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As we approached the 20th anniversary of the Act, leaders of the Water Environment Federation and other organizations felt it would be appropriate to step back, take a thoughtful look at our current programs, and identify appropriate new approaches for the 1990s and beyond.

Although not formally incorporated, Water Quality 2000 has operated since 1989 under by-laws which spell out our governance process and the rights and obligations of each member organization. Our funding has come from a variety of sources, including government and foundation grants and contributions from the member organizations. We have an elected, 20 member Steering Committee which is representative of the membership at large. I am joined today by Bob Adler, senior attorney for the Natural Resources Defense Council and Steering Committee vice chairman, and other members of the Steering Committee.

Publication of the Water Quality 2000 Final Report, A National Water Agenda for the 21st Century, is a significant milestone in the national clean water debate. This report presents the consensus views of a diverse coalition of interests on the need for fundamental changes in U.S. water policy.

We believe our report provides a sound conceptual framework within which to consider improvements to the Clean Water Act and other laws. Although our report does not focus primarily on the Act or on legislative matters, it does contain many specific recommendations which we hope will be of assistance to the Subcommittee.

When we began Water Quality 2000, the first thing we agreed on was a Vision Statement: Society living in harmony with healthy natural systems.

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We used our Vision Statement as a yardstick to see where we stood. Our Interim Report, completed in 1991, found that although substantial progress has been made in water quality improvement since the passage of the 1972 law, and many billions of dollars have been spent, more needs to be done to achieve the broad objective of the Act to restore the physical, chemical and biological integrity of the Nation's waters.

The Interim Report identified a series of impediments--technical, financial, institutional, and social -- to continued progress, and concluded that: "Focusing attention on the societal causes of water quality problems is essential if we are to articulate long-term solutions in which societal goals are compatible with clean water."

The Final Report responds to this conclusion by presenting some 85 specific recommendations for improvement, within the framework of an integrated, holistic national water resources policy. These recommendations were developed using a participatory work group approach that involved over 100 experts from a variety of interests and disciplines. The report has been endorsed by 64 organizations to date (our federal agency members are non-voting). While consensus was not achieved on every subject, there is broad support for the overall policy direction.

The report articulates eight "Guiding Principles" for a national water policy:

1. Water resources must be protected to sustain environmental values and the health of the economy;

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2. protection efforts must emphasize avoiding or minimizing pollution and resource degradation rather than mitigating their effects;
3. protection efforts must involve cooperation between all levels of government and the private sector, with the level of government most appropriate to the problem principally responsible for the solution;
4. protection efforts should focus on environmental results within appropriate hydrologic units or watersheds, with successes and failures in attaining water resources goals regularly reported to the public;
5. protection efforts should adopt a holistic perspective, taking into account the interconnectedness of quantity and quality of surface water, groundwater, and aquatic and related land resources;
6. protection efforts should include a mix of voluntary and mandatory approaches;
7. protection efforts must be based on a sound scientific understanding of both the natural and artificially altered environments and their interaction; and
8. protection efforts should be designed to ensure that beneficiaries of investments in water resources pay the full cost of these investments, while contributors to

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water quality impairment fully internalize the cost of their polluting activities.

Building on these principles, the report goes on to identify three strategies for implementing an integrated, holistic national water policy: 1) preventing pollution; 2) increased individual and collective responsibility for protecting water resources; and 3) watershed-based planning and management.

Integrated means a policy that protects surface, ground and coastal waters, and habitat.

Holistic means a policy that considers human health, water supply, and ecological concerns and avoids simply transferring pollution from one medium to another.

Pollution prevention means that we must manage our affairs -- how we live, farm, work, recreate, consume, and transport-- so that as a society we generate less pollution and manage the wastes we produce better. Our recommendations for pollution prevention include a mix of voluntary and mandatory measures to promote continuous improvement in all sources and sectors. This includes agriculture, manufacturing, land development, energy, transportation, commercial activity, and individual households. Prevention is particularly important as a strategy for controlling runoff from agricultural and urban lands, our biggest remaining water quality challenge.

Increased individual and collective responsibility means we must **empower** the American people to adopt a heightened sense of responsibility for protecting water resources. It also means that all of us must contribute our fair share to the cost of cleanup and prevention. Responsible behavior -- in households,

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on farms, and in factories -- should be encouraged through education, incentives, and yes, sometimes, regulation.

Implementation of watershed planning and management is central to all of our other recommendations. One of the biggest institutional impediments to progress is the fact that water programs are typically created and managed along political boundaries. Nature, of course, does not recognize political boundaries. Watersheds are the logical hydrologic unit within which to plan, implement, and evaluate our prevention efforts. Water Quality 2000 advocates a nationally coordinated program, with regional watershed planning and management organizations for all 21 U.S. water regions.

Watershed planning and management is not a new idea. Although areawide planning was a major feature of the original Clean Water Act, this approach was not fully embraced in the 1970s or 1980s. For a variety of reasons, we believe the nation is now ready, and indeed must, embrace this approach. Our ability to monitor and model is much greater than it was twenty years ago. Many of the gross, obvious water pollution problems have been addressed. More importantly, the magnitude and nature of our remaining problems, in particular the problem of urban and agricultural runoff, makes a standardized, national approach impractical and unlikely to be successful.

In fact, a 1976 report prepared for the National Commission on Water Quality stated that: "Any effective strategy for control of nonpoint sources within the framework of the Act can only be a product of the areawide planning process."

The watershed approach allows us consider cumulative impacts, and make rational decisions concerning the allocation of limited financial resources. For example, whether in a given

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watershed it would be more effective -- in terms of improving water quality -- to spend \$20 million for improvements in municipal wastewater treatment plants or to spend the same amount helping to implement best management practices for agriculture.

Our report includes the following specific recommendations for implementation of watershed-based planning and management:

- Congress should create a new nationally coordinated program of watershed planning and management, including a mandate for implementation of activities as a condition of participating in planning.
- Congress should impose no particular management form on the states and should build upon existing watershed mechanisms. However, planning and management institutions should be required for all 21 of the major water regions of the United States.
- As requested by states, Congress should encourage, authorize, and approve the creation of interstate regional mechanisms, including joint federal-state compacts, to plan and manage water resources.
- Watershed planning and management institutions should be nested, to reflect the multiple orders of progressively larger watersheds. Institutions created to plan and manage smaller watersheds should participate in planning and management of the large watersheds to which they belong.

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- Watershed planning and management institutions should plan for protection of groundwater resources that cross watershed boundaries.

Many of the other recommendations in our report, including all of the pollution prevention recommendations, can and should be implemented locally within the watershed context. Other specific actions well-suited to the watershed approach include: water quality-based permitting for point sources; coordinating local and regional land-use and transportation planning with watershed protection goals; shifting water delivery systems away from political boundaries toward more efficient watershed boundaries; and management of runoff (including CSO abatement) in developed urban areas.

I would like to emphasize, Mr. Chairman, that our call for a nationally coordinated program is not meant to imply federal management of individual watersheds. The objective of a national program should be just the opposite: to empower watershed-based efforts the regional, state, and local levels. The federal role should be to provide leadership, coordination, technical assistance, and some financing; and to redirect existing programs to provide incentives and eliminate barriers to a holistic, integrated approach.

Mr. Chairman, I would like to provide you with a copy of an excellent background paper on watershed management in the United States which was prepared for Water Quality 2000 and request that it be made part of the hearing record, along with the Executive Summary of our Final Report.

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I would like to briefly highlight some of our suggestions that may be of particular interest to the Subcommittee. These relate to improved federal leadership in protecting water resources, pollution prevention, wetlands protection, and financing and incentives.

#### Improved Federal Leadership

The foremost responsibility of the federal government must be to provide leadership on societal change and adoption of a holistic approach. Federal agencies must implement their water resource programs in a coordinated manner, and should set an example for other levels of government, private landowners, and facility operators by assuming responsibility for compliance with federal laws and model land uses at all federal facilities.

- Congress should recognize the need for a new national water policy, and implement it through watershed planning and management. Recognition also means funding, through both traditional appropriations mechanisms and through user fees dedicated to specific activities.
- Congress should authorize and fund a new interagency water policy coordinating council, comprised of the major federal water resource agencies plus other federal agencies with authorities that can affect water quality.
- Congress should consolidate some or all of the 23 committees and subcommittees that have some jurisdiction over water issues. Water Quality 2000 identified conflicting and overlapping congressional

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committee jurisdictions as a major impediment to enactment of integrated, holistic solutions.

- Congress should adopt a national policy of groundwater protection, and EPA should take the lead in forging a new intergovernmental partnership to protect groundwater. Under a new national policy, all states should adopt comprehensive programs that integrate groundwater and surface water protection activities. In our deliberations, Water Quality 200 could not agree on whether the federal government should play a more comprehensive role in establishing and overseeing groundwater protection activities.
- To enable us to accurately measure our progress, Congress should fully fund an adequate national system to integrate federal, state, local and private water quality monitoring. Monitoring should include ambient chemical, biological, and physical characteristics. Our present database is sparse and we frequently have to rely on indirect measurements.

#### Pollution Prevention

Our Final Report presents many specific suggestions for implementing pollution prevention in the following sectors: agriculture, forestry, land development, transportation, households, energy, and industry.

Pollution prevention efforts for nonpoint sources should have a priority commitment similar to programs now in place to address point and solid waste sources.

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Congress should strengthen, expand, and fully fund a national nonpoint source program under Section 319 of the Clean Water Act. This program should incorporate all sources, including agriculture, land development, transportation, and forestry.

Nonpoint source program components should include:

- EPA-approved enforceable state programs implemented in conjunction with regional watershed authorities;
- a combination of voluntary and targeted mandatory pollution prevention plans for individual land users;
- technical assistance programs administered by USDA and other agencies; and
- federal/state revolving loan funds to finance improvements by individual land owners.

Industry has a long history of preventing pollution without identifying it as such; industrial engineers have sought ways to improve productivity, which inevitably involved producing more product and less waste. Additional progress in the industrial sector should be encouraged in the following ways:

- increased incentives for industry to implement pollution prevention, including expanded reporting requirements under Section 313 of SARA to include a broader range of chemicals and manufacturing categories;

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- establishment of a mechanism to ensure the development of facility-level pollution prevention plans;
- a collaborative effort to develop nationally consistent guidelines for facility-level plans;
- voluntary steps to review and modify internal processes or end products;
- regulation of product uses in appropriate situations; and
- development and refinement of life cycle analyses as a tool to identify pollution prevention opportunities.

Our report also includes specific recommendations for improvements to traditional point source control programs, such as expanding and improving water quality standards for toxics and other pollutants; developing sediment contaminant criteria; and supporting the development of additional industrial effluent guidelines.

#### Wetlands Protection

Wetlands help to reduce runoff and protect habitat impaired by runoff. As this Subcommittee knows, the nature and scope of federal wetlands protection efforts is an area where consensus has been particularly elusive. Water Quality 2000 suggestions would strengthen wetlands protection through changes to the Clean Water Act and by retaining and fully funding and implementing key provisions in existing laws, including the Clean Water Act and the Food Security Act.

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In particular, our report recommends that Congress expand the scope of activities covered by the wetlands program; strengthen the general permits program to prevent unacceptable cumulative losses; tie wetlands protection more clearly to state water quality certifications; and ensure that wetlands delineation is based on sound science; and provide tax and other incentives for protection activities.

#### Financing and Incentives for Water Resource Improvements

Spending for clean water programs should be viewed as an investment. For certain types of investments -- those that affect the nation as a whole -- Water Quality 2000 has suggested funding sources or strategies. For other types of investments, particularly those intended to support local programs or capital needs, funding strategies are best left to other forums where all interested and affected parties can debate the merits of alternative approaches. Adoption of a watershed approach should help to build a sense of individual stewardship and motivate citizens to make needed investments in resource protection.

Water Quality 2000 identified the following broad principles applicable across nearly all types of investments:

- The financing programs established for water programs must recognize that, in the end, we all contribute to water resources problems and we all must contribute to solutions.
- An appropriate federal share of funding for water quality improvements should ensure that: federal goals are reached expeditiously; federal spending does not substitute for state or local funds that would have

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been spent anyway; and comparable environmental protection is afforded citizens of states with unequal resources or environmental problems.

- As part of a renewed federal commitment to financing water quality improvements, in part through general revenues, Congress should authorize general funds to capitalize state revolving funds to address the financing problems of small water supply and wastewater treatment systems.
- Watershed planning and management should be financed from multiple sources of funds to be made available by the federal government, participating state governments, local governments, and the private sector.
- Congress should review applicable tax laws and regulations with the purpose of eliminating disincentives and bars to capital fund raising and to level, as much as possible, the overall fund raising capabilities of public, private, and investor owned systems, regardless of their size.
- Congress should continue to implement existing federal economic incentives to farmers and private landowners to conserve resources and protect wetlands and riparian waterbodies.
- Permit programs (whether EPA or state managed) should be adequately funded through permit fees that are collected from permittees to serve as a dedicated source of revenue to support permit administration, including sampling and monitoring directly associated with that permit.

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- Federal, state, and local policies and regulations should put water utilities on a more businesslike basis by: ensuring that water is delivered to the customer at actual cost, plus a surcharge for maintenance and capital replacement; ensuring that revenues earned by any water utility are kept within the utility so that the utility is operated on a pay-as-you-go basis.

### Conclusion

Mr. Chairman, the pending Clean Water Act reauthorization is an obvious opportunity to make some of the changes advocated in our report. But although legislation is one, very important, way of effecting change, it is not the only or often not necessarily the best way. As our recommendations indicate, research, funding and incentives, enhanced state and local programs, and most important, education must all be part of the national water agenda. One of the pitfalls we must avoid is the tendency to believe that enactment of a new law (usually regulating someone else) will automatically solve the problem and allow us to go on with business as usual.

I appreciate the opportunity to appear before you today, Mr. Chairman. The Water Environment Federation and the other Water Quality 2000 member organizations welcome the opportunity to work with you and other members of the Subcommittee in the weeks and months ahead. This concludes my testimony.

## Water Quality 2000

### Vision Statement and Goal *(Adopted 5/19/89)*

- **Vision Statement:** Society living in harmony with healthy natural systems.
- **Goal:** To develop and implement an integrated policy for the nation to protect and enhance water quality that supports society living in harmony with healthy natural systems.

To achieve this goal, this policy should

#### CONSIDER:

- all phases of the water cycle, including groundwater, surface water, and atmospheric water;
- water as one part of a total environmental management plan, to avoid transferring problems from one environmental medium to another;
- the link between water quality and land use;
- the relationship between water quality policy in the United States and global environmental issues;
- the need to maintain a healthy economy.

#### PROMOTE SUCH STRATEGIES AS:

- source reduction and waste minimization;
- water conservation and reuse;

#### ASSURE:

- healthy aquatic, estuarine, and marine ecosystems;
- healthy drinking water supplies and adequate water quality for other uses;
- protection of human health from water quality hazards associated with recreation, fish and shellfish consumption, and other water uses.

## Mission Statement

Representing a broad range of interests in America, Water Quality 2000 proposes and promotes national policies and goals for the 21st century that will protect and enhance water quality, with a specific agenda for action.

In carrying out this mission, the following principles will be applied:

- Broad representation will be achieved;
- The perspective will be long-range, visionary, and holistic;
- Maximum consensus on "national principles" will be sought;
- Water quality, not water quantity, is the focus, but with a balanced view of surface, ground, and atmospheric waters; and
- The product of Water Quality 2000 will include a specific agenda for action.

The following Water Quality 2000 organizations have approved the Final Report as of March 31, 1993:

Academy of Natural Sciences  
 American Academy of Environmental Engineers  
 American Association of Port Authorities  
 American Consulting Engineers Council  
 American Farmland Trust  
 American Forestry Association  
 American Institute of Chemical Engineers - Environmental Division  
 American Planning Association  
 American Public Works Association  
 American Recreation Coalition  
 American Rivers  
 American Society of Civil Engineers  
 American Water Resources Association  
 American Water Works Association  
 Association of Metropolitan Sewerage Agencies  
 Association of Metropolitan Water Agencies  
 Association of State Drinking Water Administrators  
 Center for Marine Conservation  
 Chemical Manufacturers Association<sup>1</sup>  
 Chesapeake Bay Foundation<sup>2</sup>  
 Connecticut Department of Environmental Protection  
 DuPont Company (and Conoco)  
 Ecological Society of America  
 Environmental and Energy Study Institute<sup>2</sup>  
 Environmental Defense Fund<sup>2</sup>  
 Environmental Law Institute  
 Great Lakes Commission  
 Green Bay Metropolitan Sewerage District, Wisconsin  
 Harvard University - Division of Applied Sciences  
 Heidelberg College - Water Quality Laboratory  
 International City and County Management Association  
 Interstate Commission on the Potomac River Basin  
 Kansas Water Office  
 Lake Superior Center  
 League of Women Voters of the United States  
 ManTech Environmental Technology  
 Minnesota Project<sup>2</sup>  
 National Agricultural Chemicals Association<sup>1</sup>  
 National Association of Conservation Districts  
 National Association of Dredging Contractors  
 National Association of Water Companies  
 National Parks and Conservation Association  
 National Society of Professional Engineers  
 Natural Resources Defense Council<sup>2</sup>  
 North American Lake Management Society  
 Occidental Petroleum Corporation  
 Procter and Gamble Co.<sup>1</sup>  
 Rural Community Assistance Program  
 Society of Environmental Toxicologists and Chemists

Soil & Water Conservation Society  
 Spill Control Association of America  
 Sport Fishing Institute  
 Texas Lower Colorado River Authority  
 Trout Unlimited  
 Vanderbilt University  
 Virginia Polytechnic Institute and State University  
 Water Environment Federation  
 Water & Wastewater Equipment Manufacturers Association  
 Wisconsin Department of Natural Resources<sup>2</sup>  
 Wisconsin Wildlife Federation  
 World Wildlife Fund

Federal Agencies (Non-Voting<sup>3</sup>)

Tennessee Valley Authority  
 U.S. Army Corps of Engineers  
 U.S. Department of Agriculture  
   Agricultural Research Service  
   Forest Service  
   Soil Conservation Service  
 U.S. Department of Commerce  
   NOAA/National Marine Fisheries Service  
 U.S. Department of Interior  
   Bureau of Reclamation  
   Fish and Wildlife Service  
 U.S. Geological Survey  
 U.S. Department of Transportation  
 U.S. Environmental Protection Agency

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<sup>1</sup>These organizations cooperated on a minority report that discusses several issues of concern to the industrial sector.

<sup>2</sup>These organizations cooperated on a minority report that discusses the need for a national groundwater protection policy.

<sup>3</sup>Federal agency members are non-voting and were not asked to take a position on the report.

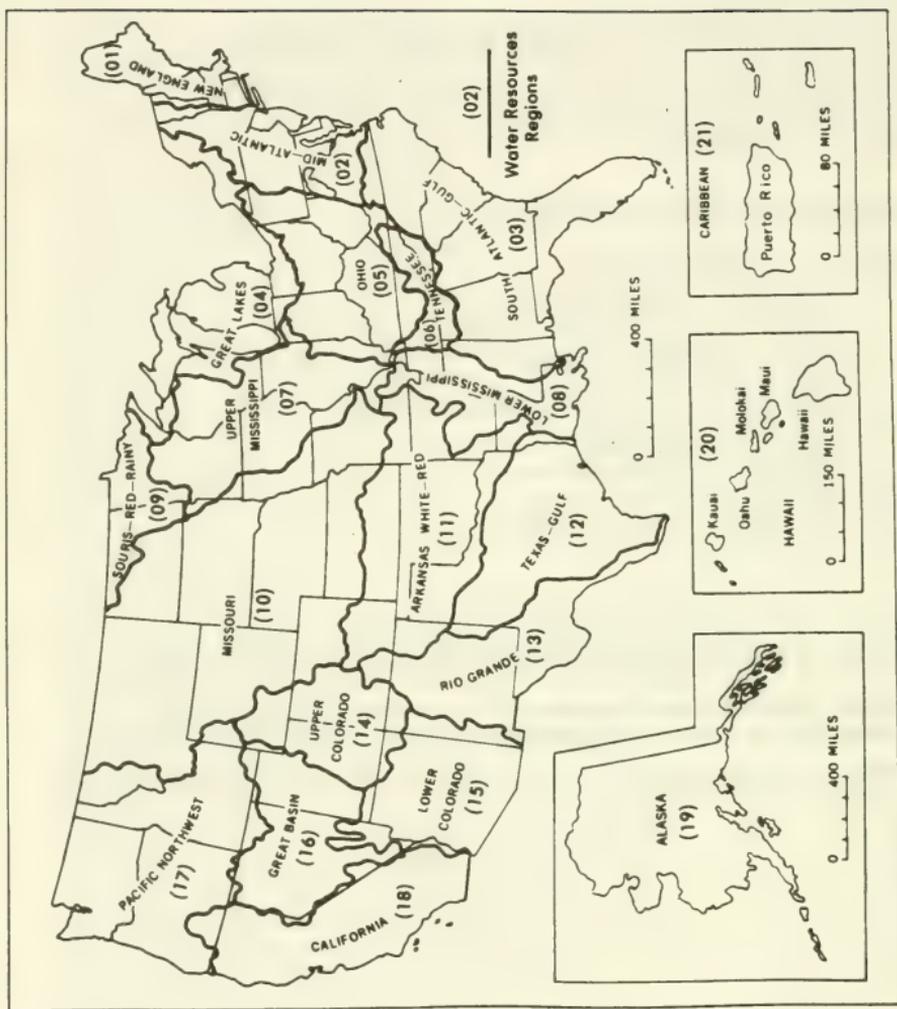


Figure 2. Water-resources regions of the United States.

**WATERSHED PLANNING AND MANAGEMENT:  
A BACKGROUND PAPER**

*Prepared for:*

**WATER QUALITY 2000 STEERING COMMITTEE**

November 25, 1991

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U.S. House of Representatives

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## I. EXECUTIVE SUMMARY

Under the nation's current clean water program, responsibility for pollution control is divided among the federal government, state governments, and a variety of local government entities. Within each level of government, there are usually a number of different agencies with water pollution control responsibilities. This complex institutional framework for governmental decision making often does not provide the flexibility to best address the nation's water problems. Numerous commissions established to study national water policy issues have recognized a need for intergovernmental coordination. Developing a capacity for effective intergovernmental decision making may require using a regional approach to solve water problems within the boundaries of natural water systems instead of political boundaries. The regional approach perhaps best suited to facilitate intergovernmental decision making processes is watershed planning and management.

Most natural events and human activities affect the quality of water resources principally within watershed boundaries. As a result, many argue that watersheds constitute the most sensible hydrologic unit for planning and implementation of actions to restore and protect water quality.<sup>1</sup> Because watershed boundaries usually do not coincide with the boundaries of political jurisdictions, it is difficult to develop policies, carry out comprehensive planning, and develop integrated solutions to pollution problems on a watershed basis.

U.S. Geological Survey surface water hydrological units provide consistently derived water body segments that can be used for watershed-based planning and management. There are four levels of hydrological units. The largest, called *regions*, encompass the drainage areas of major river systems. The 21 regions are divided into 222 *subregions*, 352 *accounting units*, and 2,150 *cataloging units*. This hierarchy provides the flexibility to address water quality problems at the most appropriate geographic scale. Although based on surface water boundaries, hydrological units may be used to address certain groundwater issues as well. Groundwater systems are usually spatially discontinuous and may vary widely in size. Thus, groundwater systems may be included within the boundaries of a surface water hydrological unit, which provides an opportunity to address the interactive nature of ground and surface waters.

The most appropriate institutional framework may vary for watershed planning versus watershed management because of functional distinctions between the two processes. While watershed planning involves thinking about the future, watershed management involves day-to-day resource management. Generally, water management has both structural and nonstructural components. Structural components include dams and reservoirs, locks and other channel improvements for navigation, irrigation projects, wastewater treatment plants, and stormwater facilities. Floodplain management programs exemplify nonstructural water management.

### **Why a Watershed-based Approach is Relevant to Solving Today's Water Problems**

The argument for a watershed-based approach is even more compelling given the nature of the water problems facing the nation today. While most of the national water quality effort

over the past several decades has relied on managing point sources of pollution, much of the remaining water quality problems across the country are attributable to runoff from agricultural, urban, and suburban lands. In contrast to the problems posed by a manageable number of point sources, whose discharges were relatively predictable and often controlled by standardized technologies, the problems associated with runoff are far more complex. Runoff problems often are related more to individual actions than to single pollution sources. In addition, both the quality and quantity of runoff depends on land use, which can change rapidly, and on rainfall, which is highly unpredictable. Given these conditions, runoff problems are best prevented or controlled on a watershed basis through individually developed strategies.

### **Watershed Planning and Management in National Water Policy**

Since the birth of our nation, the roles and responsibilities of the different levels of government -- federal, state, and local -- for managing water quality, water quantity, and aquatic resources have changed over time. The federal government made a notable attempt to implement a river basin approach to water resources planning under the Water Resources Planning Act of 1965. The current federal policy calls for allocation of greater responsibility for water planning and management to the states and local governments, thus fostering the use of political boundaries instead of natural water system boundaries.

### **Institutional Models for a Watershed-based Approach**

Models of watershed planning and management generally fall into four broad categories:

- (1) Interstate water management institutions, of which there are four general types, as follows:
  - *An independent authority.* Only one such authority exists in the United States, the Tennessee Valley Authority, which has broad powers to manage water resources with the goal of encouraging regional economic development.
  - *Federal-interstate compacts.* Federal-interstate compacts are interstate compacts to which the federal government is a signatory party. The Delaware and Susquehanna River Basin Commissions are the only examples of federal-interstate compacts.
  - *Interstate Compacts.* Interstate compacts are formed to coordinate management of a common water resource among states and primarily involve only state representatives as voting members. Such compacts are more widely used to allocate water, particularly in the western United States, than to manage water quality.

- *Cooperative Agreements.* Cooperative agreements are created through intergovernmental negotiation and formalized by the signatures of governors or mayors of participating state and local governments.
- (2) Intrastate water management institutions.
  - (3) Federally-mandated water planning programs.
  - (4) State water planning programs.

### **Dimensions of Effective Watershed Planning and Management**

Most water experts generally agree on the dimensions of effective watershed planning and management. These principles are outlined below.

#### Dimensions of Effective Watershed Planning

- The overall goal of watershed planning should be to develop a continuing process of consensus building -- not to develop a discrete plan. In the past, planning efforts often ended with the preparation of plans that were never implemented.
- The planning process must involve all levels of government, the private sector, and most importantly, the public. Furthermore, the planning process should help create mechanisms for intergovernmental coordination, which is critical to implementing watershed management programs successfully.
- Planning should have a strategic focus, that is, the consensus-building process should weigh and set priorities and identify emerging problems. Priorities should be evaluated using a holistic watershed-based approach to the prevention and control of pollution and habitat protection.
- Once priorities are agreed upon, watershed plans should recommend actions that will achieve environmental results within the watershed in the most efficient and effective way.

#### Dimensions of Effective Watershed Management

- Watershed management programs should be developed at the most appropriate geographic scale to address the specific problems identified in the planning process.
- Watershed management programs should develop mechanisms for intergovernmental decision making and coordination to implement basinwide management actions. Responsibility for other management actions should be allocated to the level of government -- federal, state, or local -- that can respond most effectively.

- Watershed-based programs should adopt a comprehensive management perspective -- that is, address the quality and quantity of surface and ground water, groundwater-surface water interactions, and the ecological health of aquatic and related land resources.
- Grass roots community involvement is essential to develop a strong local commitment for implementing watershed management programs. Public education and involvement is critical to developing political support for program implementation. Local government representation in management decision making helps build political support among local elected officials.
- Watershed management programs need well-defined channels to resolve disputes among water users or other affected parties.
- Agencies administering watershed management programs must have the legal authority to implement and enforce program requirements, whether management initiatives are implemented by regulation or by dispute resolution.
- A sound scientific understanding of the watershed is essential for effective management. Data collection efforts must be designed to provide the information needed for management decision making.
- Management programs should not focus exclusively on structural controls where nonstructural controls or education for pollution prevention, conservation, or resource protection are feasible means to solve water problems in a watershed. When needed, structural controls should be cost-effective.
- Watershed management agencies must have adequate financial resources to implement their program responsibilities. Where possible, financing mechanisms should be designed to recover the full costs of watershed management programs or services from beneficiaries or users.

## II. WATERSHED PLANNING AND MANAGEMENT IN NATIONAL WATER POLICY

Over the last 200 years, water policies have grown increasingly complex, as have the number of institutions and regulations put in place to manage water quantity, water quality, and aquatic resources. History suggests that solutions to water problems often begin with national water policy initiatives that are molded by social, economic, and political forces into water planning and management programs involving all levels of government and the private sector.<sup>2</sup>

Our federal system -- the framework for governmental decision making -- is characterized by multiple partners with formal and informal interactions. The U.S. Constitution gave specific powers to each of the three branches -- Executive, Legislative, and Judicial -- of the Federal government. All powers not given to the federal government were given to the states. States delegate certain powers to local general purpose governments, such as cities, townships, and counties. The federal system is dynamic as the roles and responsibilities of the three levels of government change over time and alternative institutions are created on a regional basis (interstate and intrastate) to address policy concerns that cross existing political boundaries.

Because water resources management is not mentioned specifically in the Constitution, it was first seen as a matter for private enterprise or individual landowners. In the early 1890s, officials of the Executive Branch of the Federal government resisted Congressional proposals to use federal funds for internal waterway improvements, based on the rationale that they would be unconstitutional because such improvements would primarily aid local private enterprises. A 1824 U.S. Supreme Court decision in the case of *Gibbons vs. Ogden*, however, provided a legal basis for the constitutionality of using federal funds for waterway improvements for navigation that involved interstate commerce. The federal role grew slowly, but steadily, to become the dominant force in U.S. water resources management from the 1930s until the late 1960s.

During the period from 1930 to late 1960s, Congress authorized many large scale projects to promote navigation and manage water quantity. Local interests could obtain federal funds for water resources development projects constructed by federal agencies. During this time, however, there was growing concern about the fragmented nature of water resources management. Both Congress and the Executive Branch established numerous commissions to study national water policy, many of which recommended improved interagency and intergovernmental coordination and some recommended a river basin approach to water resources planning and management.

The federal government attempted to implement a river basin approach to water resources planning under the Water Resources Planning Act of 1965. River basin planning activities under the Act, however, focused primarily on water resources development at a time when public concerns were shifting from water supply needs to water quality problems. The 1980s saw the demise of federal river basin planning efforts and the emergence of a federal policy to transfer greater responsibility for planning and managing both water quantity and quality to the states.

## 1890s and early 1900s -- Emergence of a Federal Role in Water Resources Management

Federal involvement in water resources management began with Congressional appropriations for projects to improve waterways for navigation. Such projects generally were authorized by omnibus rivers and harbors bills. A broader federal interest in water resources management began with the Swamp Lands Acts of 1848 and 1850, which authorized land grants to states in the lower Mississippi River Valley with the proceeds to be used for construction of flood control and drainage works. While little was accomplished, the Swamp Lands Acts set a precedent for federal involvement in water resources management beyond the purpose of navigation.

In the 1870s, policy makers recognized that flooding on the lower Mississippi River and the need to provide water supplies for irrigation in the western United States were problems that would require the federal government to assume additional responsibility for water management. In 1879, Congress authorized the Mississippi River Commission to make improvements for the purpose of preventing floods, but only to improve navigation and promote interstate commerce. Later, in 1917, Congress authorized and made funds available for flood control projects to protect the floodplain of the Mississippi River from inundation. The federal government began taking a direct role in developing irrigation projects under the Federal Reclamation Act of 1902. Because western states controlled the use of water within their boundaries, water management for irrigation was left to the states.

The concept of comprehensive water resources management on the basis of river basins was introduced by several reports under the administration of President Theodore Roosevelt -- at the height of the conservation movement during first decade of the 20th Century. The 1908 Inland Waterways Commission report and the 1909 National Conservation Commission report recommended comprehensive planning for all purposes (including water pollution control and other benefits derived from the use or control of water), equitable sharing of costs among beneficiaries, and creation of a National Waterways Commission to coordinate among all federal agencies involved in water resources activities. The National Waterways Commission was created, however, it only issued a report in 1912 recommending action to coordinate the work of federal agencies administering water resources development programs. The Newlands Commission was authorized in 1917 to coordinate federal water activities, but never created. Instead, the Federal Power Commission was created in 1920 to license hydroelectric power projects and develop comprehensive plans for water resources development, but these plans were never developed.

Under the 1927 Rivers and Harbors Act, the Corps of Engineers was granted authority to undertake basinwide surveys -- known as the "308 reports" -- to address navigation, flood control, hydropower, and irrigation potential as mandated by the 1918 Federal Power Act. While the Corps prepared such surveys for almost every river basin in the United States, they focused mainly on the need for large capital structures and federal water resources development projects.

In the late 1800s and early 1900s, protecting public health through implementing standards for sewage treatment was the responsibility of state governments. Scientific knowledge and technology made sewage treatment possible by the late 1800s. States established

sanitary commissions to prevent waterborne disease through treating drinking water and controlling water pollution from human sewage and refuse. Many larger cities established local sanitary commissions. During this period, the primary goal was elimination of typhoid and cholera epidemics caused by contaminated drinking water. The Rivers and Harbors Act of 1899 was the first law to recognize a federal authority in water pollution control. This Act, however, was limited to preventing discharge of refuse into navigable waterways.

### **1930-40s -- An Era of Large-scale Water Resources Development**

In the 1930s, the National Resources Committee and its successor, the National Resources Planning Board were created to develop comprehensive river basin development plans, but they lacked the authority to implement them. Instead, the federal Flood Control Acts of 1936 and 1938 used projects identified in the 308 reports as a basis for recommendations. These Acts led to an almost entirely federal program for dam and reservoir construction by federal water resources development agencies, often for the single purpose of flood control. The states had few rights and responsibilities and, in effect, U.S. water resources management became the purview of the Corps of Engineers and Bureau of Reclamation during an era of dam building. A broadening of the purposes of federal water resources construction programs occurred when the Flood Control Act of 1944 established recreation and the Fish and Wildlife Coordination Act of 1958 established fish and wildlife management as appropriate concerns of federal water resources management.

In 1933, Congress created the Tennessee Valley Authority (TVA) as an independent water management agency with a mission to promote regional economic development in the Tennessee River Valley. The TVA built 15 dams by the end of World War II. Although many regarded TVA as a success in promoting economic development, attempts to create similar authorities for other river basins in the United States were unsuccessful.

### **1950s-1960s -- The Federal Government Attempts to Implement a River Basin Approach to Water Resources Management and Begins to Address Water Quality as an Important Concern**

In response to concerns about federal water resources development projects and the lack of a comprehensive federal water policy, several efforts were made in the 1950s-1960s to establish a national water policy. The first Hoover Commission proposed, but never prevailed in, combining almost all of the federal water resources programs into a single cabinet department to minimize conflicts and centralize decision making. President Truman's Water Resources Policy Commission proposed, but never implemented, reinvolving states in the water resources management process under river basin commissions that would develop programs for comprehensive water resources management.

#### Senate Select Committee on National Water Resources

In the 1950s, Congress generally resisted efforts by the Eisenhower Administration to reduce federal responsibility for water management and curtail federal water resources

development programs. The Senate created a Select Committee on National Water Resources to establish a basis for national water policy. A report to the Committee on water pollution control needs by the Public Health Service introduced the concept of water quality management as a way to meet water quantity needs.

In its 1961 report, which many regard as a landmark, the Senate Select Committee on National Water Resources recommended that the nation's water needs would be met most efficiently if 80 percent of the federal investment was for water pollution control and 20 percent funded water resources development. The Committee also recommended coordinated intergovernmental water resources planning, scientific research, periodic assessments of water supply-demand relationships, and grants to the states to stimulate their participation in water programs.

### Water Resources Council

The Water Resources Planning Act of 1965 established the Water Resources Council (WRC) to implement a national strategy for planning for water and related land resources in 21 water regions. The Act took some of the steps outlined in the Senate Select Committee's report. In addition to creating the WRC, the Act began the most notable of the federal attempts to implement the river basin approach to water resources planning (see discussion of Title II River Basin Commissions in Chapter III).

The WRC was established within the Executive Branch and the statutory members consisted of the cabinet secretaries relevant to water resources -- the Secretaries of Interior; Agriculture; Army; and Health, Education, and Welfare; and the Chairman of the Federal Power Commission. Under the Department of Transportation Act of 1966, the WRC was expanded to include the Secretary of Transportation. In addition to these statutory members, WRC regulations provided for associate members that could participate in WRC meetings, but their concurrence was not required for WRC decisions. Associate members included the Secretaries of Commerce, and Housing and Urban Development, and the Administrator of the Environmental Protection Agency. The Attorney General, Chairman of the Council on Environmental Quality, Director of the Office of the Budget, and Chairmen of the Title II River Basin Commissions often participated in WRC meetings as observers.

Most of WRC's work was conducted by a council of representatives designated by the statutory members; the WRC staff; administrative and technical committees, which were composed of representatives of members, associate members, and observer agencies; and special interagency task forces. Under the Water Resources Planning Act of 1965, the WRC was mandated to:

- Prepare a national assessment of regional water supply and demand;
- Study the adequacy of regional and river basin plans, and existing and proposed policies and programs;
- Study the adequacy of administrative and statutory means for coordinating federal agency water resources programs and policies;

- Make recommendations to the President concerning water resources policies and programs;
- Establish (with presidential approval) principles, standards, and procedures for federal participation in river basin planning and for formulation and evaluation of water projects;
- Participate in the creation, operation, and termination of Title II River Basin Commissions, including review of river basin commission plans and submittal of such plans with WRC recommendations to the President; and
- Make grants to the states (under Title III) to assist them in comprehensive water and related land resources planning.

WRC activities focused on water resources development, with neither its river basin planning efforts or federal policy coordination effectively integrating concerns for water quality. In implementing the Act, the WRC assumed that rigorous planning principles, standards, and procedures would be an effective means of assuring that only projects meeting tests of national public interest would emerge from the planning process for authorization and construction. Instead, some felt that cost-sharing policy had a greater impact on the water resources planning process in the 1960s and 1970s than "principles and standards." Projects and project purposes tended to be planned and costed to maximize federal nonreimbursable costs, in effect, minimizing nonfederal reimbursable costs. These concerns led to efforts to reform cost-sharing policy beginning in the 1970s.

While the Water Resources Planning Act involved state representatives in the river basin planning process, it failed to encourage direct participation by representatives of local governments and the private sector. Lack of local representation made it difficult to develop local support for WRC's water resources planning activities. Political support for WRC activities was also adversely affected by the environmental movement that emerged in the 1960s, which questioned the justification for major federal water resources development projects. In the 1970s, the number of WRC meetings declined as well as the political support of the Secretary of Interior, who served as Chairman. In 1980, the Reagan Administration abolished the WRC.

The Title III matching grants to the states for water resources planning under the Act encouraged the development of professional talent and planning activities at the state level. However, the Title III planning grants were abolished by President Reagan in 1981.

#### Federal Water Quality Legislation

During the 1950s, the federal role in managing the nation's water quality problems expanded slowly into the control of municipal sewage discharges on the basis of federal authority over interstate waters. The initial federal response, however, was not planning or regulation, but primarily grants and public works. The Federal Water Pollution Control Act of 1956 was the first of a series of laws that increased federal assistance to local governments for construction of municipal wastewater treatment facilities. The Act recognized the primary responsibility of

the states to prevent and control water pollution and imposed no federal mandates for state activities. The 1961 amendments to that Act, however, increased federal authority by redefining interstate waters to include coastal waters. With each new federal law, from 1956 to 1969, the level of federal grants grew, the percent of total costs covered by federal grants increased, and the types of costs considered eligible under the federal grant program expanded.

With the Water Quality Act of 1965, the concept of water quality standards became an important feature of federal law. States were required to develop state water quality standards for interstate waters. The Federal Water Pollution Control Administration was created to establish broad guidelines, and revise or reject state standards. At this time, however, there was little attention to nonpoint sources of water pollution, groundwater contamination, loss of aquatic habitat, and the environmental and human health threats of unrestricted discharge of toxic pollutants into the nation's waters.

#### National Water Commission

Created in 1968, the National Water Commission began a 5-year analysis of national water policy. The Commission concluded that many of the federal programs created decades earlier had outlived their usefulness and emphasized the need for a shift in focus from water quantity to water quality and environmental protection. The Commission recommended that users of water and water-related services -- including navigation, irrigation, and flood control -- should pay the full costs of providing those services; programs with largely localized benefits should be planned, managed, and financed locally; and polluters should pay the costs of restoring their effluent to usable quality. Congress took no action on these proposals, and in fact, some might argue that they went in the opposite direction by authorizing dramatic increases in federal responsibility for water quality under the Federal Water Pollution Control Act Amendments of 1972. After the Colorado Basin Projects Act of 1968, however, there were no further authorizations of water resources development projects on the scale of the 1940s-1950s.

#### **1970s -- Increasing Federal Role in Pollution Control**

Public concern over environmental problems had grown throughout the 1960s and Congress responded by increasing federal responsibility for pollution control. During this time, environmental concerns expanded beyond municipal and industrial water pollution control to include protection of the recreational and amenity value of the nation's waters. The environmental movement in the 1960s also led to increasing emphasis on nonstructural water resources management programs (e.g., floodplain management) over construction of water resources development projects. The National Environmental Policy Act of 1969, which required preparation of an environmental impact statement on every major federal action, brought increased attention to environmental quality concerns in federal project planning. The shift to nonstructural management and environmentalist opposition to large federal projects led to a declining federal role in water resources management.

### Clean Water Act

The Federal Water Pollution Control Act Amendments of 1972 (known as the Clean Water Act) was enacted in response to public pressure to solve water quality problems. Under the 1972 Act, the federal government assumed the dominant role in defining and administering water pollution programs to control conventional pollutants, through the newly established Environmental Protection Agency (EPA). The Act instituted broad federal authority over all public waters and established two national goals:

- (1) Eliminating the discharge of pollutants into navigable waters by 1985 (the zero discharge goal); and
- (2) Achieving, wherever attainable, a water quality that protects fish, shellfish, and wildlife and provides for recreation in and on the water by July 1, 1983 (the fishable and swimmable goal).

The 1972 Act authorized an \$18 billion program of federal grants to states and local governments to build municipal wastewater treatment plants, with EPA establishing standards for their construction. The Act created a regulatory mechanism requiring uniform technology-based effluent limitations for industrial dischargers, instituted a national permit system for all point source dischargers, and initiated a program designed to identify nonpoint source contamination. The 1972 Act also initiated four new planning programs: state program plans, municipal wastewater treatment facilities plans, areawide waste treatment management plans (Section 208), and basin planning (Section 209). While Section 101(a)(5) declared that the areawide waste treatment management planning process should be developed and implemented as a national policy, planning efforts lagged far behind the treatment plant construction program.

In the 1972 Act, Congress also established the National Commission on Water Quality to evaluate whether the Act was achieving its goals and to recommend mid-course corrections. In its 1976 report, the Commission concluded that Congress significantly underestimated the time and resources that would be needed to achieve the goals of the Act, that the Section 208 planning process was not working, that the Act appeared to offer little opportunity to attain control of runoff under any of its provisions, and intergovernmental responsibilities were still in flux. The Commission was unable to reach unanimous agreement on a single set of recommendations to improve the nation's clean water program.

The Clean Water Act of 1977 was the beginning of a Congressional policy to delegate implementation of federally-mandated water quality programs to the states. States were urged to accept delegation of the national permit system and assume management of the construction grants program. The 1977 Act also broadened the federal program to include control of priority toxic pollutants.

## **1980s -- Allocation of Greater Responsibility to the States for Pollution Control**

Since the late 1970s, Congress has passed an increasing number of laws requiring state implementation of federal environmental policies. Allocation of greater responsibility to the state and local levels has been accompanied by declining federal financial assistance for water pollution control, water resources, and recreation resources programs.

Provisions of the Water Quality Act of 1987 explicitly and implicitly recognized that states have the primary responsibility to implement federal water quality policies. The 1987 Act provided for phasing out federal financial assistance for constructing municipal wastewater treatment facilities by 1994. The Act reflected increasing awareness of the significant contribution of nonpoint source pollution to surface water quality problems and groundwater contamination by adding Section 101(a)(7):

It is the national policy that programs for the control of nonpoint sources of pollution be developed and implemented in an expeditious manner so as to enable the goals of this Act to be met through the control of both point and nonpoint sources of pollution.

The 1987 Act added Section 319, which requires that each state develop and submit to EPA a comprehensive management plan to address nonpoint source pollution problems. Section 319 encouraged states to develop and implement their nonpoint source management plans on a watershed basis. In response to increased concern about pollution problems in coastal areas, the Act established the National Estuary Program (Section 320) to designate estuaries of national significance and convene management conferences to develop comprehensive management plans for such estuaries.

### III. MODELS OF WATERSHED PLANNING AND MANAGEMENT

Models of watershed planning and management generally fall into four broad categories, as follows:

- (1) Interstate water management institutions,
- (2) Intrastate water management institutions,
- (3) Federally-mandated water planning programs, and
- (4) State water planning programs.

Interstate and intrastate water management institutions have varying degrees of authority for both planning and implementation of water management programs. Such powers include the authority to own, construct, or operate facilities; regulate water quantity and/or quality; enforce regulations; and raise funds independently. In the past, federally-mandated water planning programs were generally characterized by weak linkages between planning and implementation. Some of the more recent federal planning programs (for example, the National Estuary Program) coordinate more closely the planning process and implementation efforts. Although there are a wide variety of approaches among state water planning programs, they are typically designed as consensus-building processes.

#### Interstate Water Management Institutions

A variety of interstate water management institutions exist. Types of interstate institutions include:

- **An independent authority.** Only one such authority exists in the United States, the Tennessee Valley Authority, which has broad powers to manage water resources with the goal of encouraging regional economic development. Strong efforts to establish similar authorities during the late 1940s and early 1950s for the Missouri and Columbia River Valleys were unsuccessful.<sup>3</sup>
- **Federal-interstate compacts.** Federal-interstate compacts are interstate compacts to which the federal government is a signatory party. Such compacts require approval of Congress and enable the signatory parties to participate jointly in the conservation, utilization, development, and control of water and related land resources in a river basin. The federal representative (a presidential appointee) has an important role in administering federal-interstate compacts, including voting rights. The Delaware and Susquehanna River Basin Commissions are the only examples of interstate water management institutions created by federal-interstate compacts.

- **Interstate Compacts.** Interstate compacts are formed to coordinate management of a common water resources among states. Such compacts primarily involve the states as voting members, although occasionally a federal representative has voting privileges. Interstate compacts are not binding on the signatory parties until they receive the consent of Congress and unanimous adoption by all affected states. Interstate compacts are more widely used to allocate water, particularly in the western United States, than to manage water quality.
- **Cooperative Agreements.** Cooperative agreements are created through intergovernmental negotiation and formalized by the signatures of governors or mayors of participating state and local governments. Because such agreements are not legally binding on the signatory parties, their success depends on strong political support.

#### Tennessee Valley Authority<sup>4</sup>

The Tennessee Valley Authority (TVA) was created by the Tennessee Valley Authority Act of 1933. TVA is an independent agency with broad powers to operate government-owned property, improve navigation in the Tennessee River, and control floods in the Tennessee and Mississippi River basins. A three-member full-time board, whose members are appointed by the President and confirmed by the Senate, directs TVA's water and related land resources programs. Under the 1933 Act and its amendments, TVA has a mandate to carry out an electric power program, a fertilizer program, and navigation, flood control, and watershed conservation programs. The Act authorized TVA to construct and operate dams and reservoirs in the Tennessee River and its tributaries to maintain a nine foot channel from Knoxville, Tennessee, to the mouth of the river. TVA was given regulatory powers, which include requiring TVA approval for any structures affecting navigation, flood control, or public lands; and regulation of activities that affect TVA reservoirs.

TVA's activities initially focused on constructing water resources development projects. Between 1933 and the beginning of World War II, TVA completed seven dams. During World War II, TVA completed eight dams.<sup>5</sup> All major TVA dams are multipurpose structures operated for flood control and navigation, electric power generation, water supply, and recreation. Hydropower and navigation channel improvements made the Tennessee Valley more attractive to industry. TVA considers the regional economic development that occurred during and after World War II as one of its major accomplishments. Construction of water resources development projects along the Tennessee River was essentially complete by the 1960s. Subsequently, TVA's power development program shifted to construction of coal-fired steam electric and nuclear power plants.

TVA conducts its watershed conservation activities under the Tributary Area Development Program (TAD). TAD first focused on retiring marginal land from row crop production to reduce soil erosion and stream sedimentation. Since the early 1960s, TVA has worked in cooperation with state and local agencies to combine water and related land resources development under TAD with regional planning for economic development. TVA's TAD activities include constructing water development projects (upstream reservoirs and channel

improvements), providing technical assistance, and planning. While TAD projects have no power or navigation benefits, they are justified for flood protection, recreation, municipal and industrial water supply, shoreline development, and water quality improvement. TVA is also involved in a program to help communities adopt nonstructural flood control measures, which includes planning studies and technical assistance.

Beginning in the late 1960s, the environmental movement strongly criticized TVA's water pollution control efforts and TVA's power program, which was associated with air pollution, thermal water pollution, and environmental degradations resulting from surface mining. In addition, the nine multipurpose dams on the Tennessee River and 24 other major dams on the tributaries transformed the Tennessee River into a series of lakes that were associated with growing pollution problems. TVA's appropriate role in abating the region's overall water pollution problems has been an agency concern since the early 1940s, when a TVA study documented growing industrial and municipal pollution in the Valley. This 1945 report did not propose a comprehensive program to abate water pollution because TVA lacked authority for implementation. Instead, TVA's water pollution control efforts involve cooperation with state agencies and private industry, with the agency's role limited to research and technical assistance.

#### Federal-Interstate Compacts<sup>6</sup>

The Delaware and Susquehanna river basin commissions are federal-interstate compacts involving states and the federal government as full members with voting rights. The compacts were approved by Congress and direct the commissions to develop and implement comprehensive plans, policies, and programs relating to the water resources of each basin; adopt and promote uniform and coordinated policies for water conservation, control, and development in each basin; and encourage the planning, development, and financing of water resources projects according to such plans and policies. The Delaware and Susquehanna river basin commissions are the only institutions created by interstate compacts that have regulatory powers to allocate water and control water pollution. In addition, they are the only two interstate water management institutions with extensive groundwater management powers.

The 1973 National Water Commission report, in its recommendations on interstate compacts, preferred the federal-interstate compact as the most effective institutional arrangement for water resources planning and management in multistate regions.<sup>7</sup>

#### *Delaware River Basin Commission<sup>8</sup>*

The Delaware River Basin Compact was the first interstate water compact to which the United States was a signatory party. The origin of the compact was a 1931 U.S. Supreme Court decision in *New Jersey vs. New York* that allocated water from the upper Delaware River for a reservoir to supply water to New York City. The four states of the Delaware River basin -- New York, Pennsylvania, New Jersey, and Delaware -- and the federal government began forming the compact in 1955 and it was approved by the four state legislatures and Congress in 1961.

The compact created the Delaware River Basin Commission (DRBC) with representatives from each of the four states and a federal representative appointed by the President (usually the

Secretary of Interior). DRBC has broad authority to develop plans and projects to manage the water resources of the basin, including water supply, pollution control, flood control, watershed management, recreation, and hydroelectric power. The DRBC was granted the power of eminent domain and the power to borrow money and issue bonds, but cannot pledge the credit of any party to the compact.

The compact directs the DRBC to develop a comprehensive river basin plan that includes specific water projects. The plan, and generally, any actions taken by DRBC must be approved by a majority vote of commission members. DRBC is authorized to review and approve federal and non-federal projects that affect water resources for conformity with the comprehensive plan.

DRBC has general authority to allocate surface and ground waters in the basin, largely in accordance with a 1954 U.S. Supreme Court decision. In addition, DRBC has regulatory powers to control withdrawals and diversions from surface and ground waters. DRBC can assume emergency water supply powers, which require unanimous consent of the members, to direct water withdrawals or reservoir releases during a drought or flood. The DRBC is also authorized to regulate water quality in connection with the comprehensive plan and issue orders to comply with its water pollution regulations.

DRBC's water quantity management activities are conducted according to its comprehensive plan. The current plan commits DRBC to meeting the water supply needs of the coastal plain within the Delaware River basin through conjunctive management of surface and ground water. The ability of DRBC to secure an adequate regional water supply, however, depends on the cooperation of the states to enforce groundwater pumping restrictions and to provide accurate information on groundwater withdrawals.

Because the federal government had one representative and one vote on the DRBC, federal agencies were concerned about their program and policy interests in the administration of the compact as originally proposed. In response, Congress included a reservation that the federal member had the right to nonconcur in any DRBC vote involving the comprehensive plan.

#### *Susquehanna River Basin Commission*<sup>9</sup>

The Susquehanna River Basin Compact was ratified by the States of Pennsylvania, New York, and Maryland in 1969 and approved by Congress in 1970. The compact created the Susquehanna River Basin Commission (SRBC), consisting of representatives from each of the three states and a federal representative appointed by the President. Each member of the SRBC has one vote and three votes are required to approve proposals for action.

The compact directs the SRBC to serve as the principal agency for coordinating federal, state, interstate, and nongovernmental plans for the water and related land resources in the basin. SRBC is authorized to prepare and adopt a comprehensive plan, allocate waters of the basin among the states, regulate withdrawals and diversions under certain circumstances, and assume jurisdiction over water quality if necessary to implement the comprehensive plan. Projects affecting water resources in the basin must be approved by SRBC, including federal projects when necessary to avoid substantial conflict with the comprehensive plan.

The compact contains federal reservations that limit the jurisdiction of SRBC with regard to water storage in projects authorized by Congress and the powers of federal regulatory agencies such as the Federal Power Commission or Atomic Energy Commission. In addition, the President may suspend, modify, or delete any provision of the comprehensive plan, as necessary in the national interest.

#### Interstate Compacts<sup>10</sup>

Interstate compacts are formed to coordinate and manage the use of water resources that cross state boundaries. Such compacts are not binding on the signatory parties unless they are approved by the U.S. Congress and adopted unanimously by the state legislatures of all affected states. Interstate compacts that primarily involve states as voting members (although occasionally authorize voting privileges for a federal representative) traditionally have been used in the western United States for the allocation of waters common to several states.

The first interstate compact for pollution control was the Ohio River Basin Water Pollution Control Compact Commission (now known as the Ohio River Sanitation Commission or ORSANCO), which was established in 1948. The ORSANCO compact was adopted by the legislatures of eight Ohio River Valley states and ratified by Congress. The Cincinnati Chamber of Commerce initiated the cooperative effort to solve the region's water pollution problems, which was joined by the state governors. The governors appoint 24 (three per state) of ORSANCO's 27 commissioners and the other three commissioners are presidential appointees. The Commission reimburses their expenses, but they are not paid. Each state's contribution to ORSANCO's budget is determined by a formula based on land area and population. In 1951, a U.S. Supreme Court decision ruled that member states have a legal and enforceable obligation to support the Commission and cannot unilaterally pull out.

The Potomac River Basin Compact was adopted by the states of Maryland, West Virginia, Pennsylvania, Virginia, and the District of Columbia during 1940-1945, but Congress never ratified the compact. The compact created the Interstate Commission on the Potomac River Basin. Three members of the Commission are presidential appointees and 15 are appointees of the governors and the District of Columbia. Like ORSANCO, each state's contribution to the Commission's budget is determined by a formula based on land area and population. The Commission's work is divided into four types of activities: public education; water supply, drought, and flood management; water quality; and stream restoration. Many regard the Commission's data collection and river basin modeling efforts, which have increased scientific understanding of the basin's water problems, as fundamental to its success.

Section 103 of the Clean Water Act provides that the EPA Administrator should encourage compacts between the states for the prevention and control of pollution. In addition, Section 103 grants the consent of Congress for two or more states to enter into agreements or compacts for cooperative effort and mutual assistance for the prevention and control of pollution and enforcement of respective state laws.

### Cooperative Agreements

Developed through intergovernmental negotiation, cooperative agreements are formalized by the signatures of governors or mayors of participating state and local governments. Because such agreements are not legally binding on the signatory parties, their success depends on strong state and local political support. The Chesapeake Bay Agreements are an excellent example of a successful intergovernmental cooperative agreement.

#### *Chesapeake Bay Agreements*<sup>11</sup>

The Chesapeake Bay restoration program began as a federal research study in the 1970s. In 1980, the legislatures of Virginia and Maryland established the Chesapeake Bay Commission to coordinate interstate planning and programs to restore and protect the Chesapeake Bay. The 1983 Chesapeake Bay Agreement, signed by Virginia, Maryland, Pennsylvania, the District of Columbia, the U.S. Environmental Protection Agency, and the Chesapeake Bay Commission, was a formal commitment to a basin-wide approach to restoring the Bay. The 1983 Agreement established a three-part organizational structure, including (1) the Chesapeake Executive Council to assess and oversee the implementation of coordinated plans to improve and protect the water quality and living resources of the Bay; (2) an Implementation Committee, appointed by the Executive Council, to coordinate technical matters and the development and evaluation of management plans; and (3) an EPA Liaison Office to support the restoration program. Under the 1983 Agreement, the members of the Executive Council were state and federal agency department heads.

In 1987, the Council formed a committee to develop a broader agreement addressing key issues and defining goals and milestones that would facilitate public accountability and further public participation in the Chesapeake Bay Program. The Council's Citizens Advisory Committee sponsored a series of nine public meetings to solicit comments on a draft agreement. Public participation made the final agreement a much stronger document.

The second Chesapeake Bay Agreement, signed in December 1987 by Virginia, Maryland, Pennsylvania, the District of Columbia, the U.S. Environmental Protection Agency, and the Chesapeake Bay Commission, went well beyond the original agreement. The 1987 Agreement lists specific goals, objectives, and 29 priority commitments in six categories: living resources; water quality; population growth and development; public information, education and participation; public access; and governance. The most specific and one of the most challenging commitments is achieving a 40 percent reduction by the year 2000 in the amounts of nitrogen and phosphorus reaching the Bay. In July 1988, the Council adopted a basin-wide strategy to reach that target, which describes reduction programs for the four jurisdictions. Other approved strategies address control or reduction of toxic and conventional pollutants, and development policies and guidelines.

Under the 1987 Agreement, the signatories themselves (the three governors, the Mayor of the District of Columbia, the EPA Administrator representing the federal government, and the Chairperson of Chesapeake Bay Commission) make up the Executive Council. EPA's participation became a statutory responsibility under the Water Quality Act of 1987, which also provided for continuation of federal grants to the states for Chesapeake Bay Program activities.

Seven other federal agencies with facilities near the Bay (i.e., the Department of Defense, Corps of Engineers, Soil Conservation Service, U.S. Geological Survey, Fish and Wildlife Service, National Oceanic and Atmospheric Administration, and the Federal Highway Administration) are cooperating in forming strategies that will control and reduce pollution from federal facilities.

The 1987 Agreement called for creation of a Local Government Advisory Committee to develop a strategy for local government participation in the Bay program. Some 2,000 local governments with diverse interests exist within the 64,000 square mile Chesapeake Bay watershed. Established in early 1988, the Committee consists of 20 representatives of varied levels of local government in Virginia, Pennsylvania, Maryland, and the District of Columbia.

### **Intrastate Water Management Institutions**

State initiatives for water planning and management vary widely. The diversity of approaches among the states reflects their differing physical, economic, social, cultural, and political characteristics. States have experimented with the design of local special districts and regional entities as intrastate water management institutions. Some states have designated basins with specific water resource problems for intensive management, particularly for groundwater management. Selected examples of intrastate water management institutions are described below.

#### *Texas River Authorities*<sup>12</sup>

The Texas river authorities have broad powers to develop, control, and protect the state's water resources at a regional level. Each river authority is created by a special act of the state legislature. River authorities are administered by a Board of Directors, which is composed of between 6 and 24 members who serve six-year staggered terms. In their enabling legislation, river authorities have been given powers and duties with respect to watershed management, water supply, pollution control and groundwater management, and hydroelectric power development. To date, flood control and water supply are two of the most important functions of river authorities. Although river authorities are recognized as government entities of the State of Texas, they do not receive any direct appropriations from the state.

#### *Florida Water Management Districts*

Due to continuing water problems, Florida enacted the 1972 Water Resources Act. The Act authorizes the Florida Department of Environmental Regulation (DER) to plan and manage the state's water resources, including development of a state water use plan that addresses all aspects of water management. Five regional water management districts, which conform to state water resources regions, have a significant role in administering the water program. Through boards appointed by the governor, the water management districts are responsible for managing water supply, water consumption, and flood control. Districts have authority to issue permits for surface and groundwater withdrawals and to levy ad valorem taxes to finance local water projects.

*Puget Sound Water Quality Authority*<sup>13</sup>

The Puget Sound Water Quality Authority (PSWQA) was established in 1983 to identify pollution problems affecting Puget Sound marine life, evaluate pollution threats to human health, and investigate the need for coordination among agencies responsible for protecting Puget Sound's water quality. PSWQA's initial recommendations called for preparation of a long-range comprehensive plan for Puget Sound and its related inland waterways to protect and improve water quality throughout the Sound. The planning area, which includes 12 counties, was defined by the state legislature in the Puget Sound Water Quality Act.

The principal responsibility of the PSWQA is to develop, adopt, and oversee implementation of the Puget Sound Water Quality Management Plan. PSWQA's enabling legislation requires state agencies and local governments to evaluate and incorporate applicable provisions of the plan into their policies and activities. PSWQA also has authority to propose funding mechanisms and new legislation as needed for implementation of the plan. As currently structured, PSWQA is an independent agency within the state government. An executive director is appointed by the governor to manage the work of PSWQA, including oversight of plan implementation.

Watershed planning is an important component of the nonpoint source pollution program in the *1991 Puget Sound Water Quality Management Plan*. The PSWQA, in cooperation with the Washington State Department of Ecology, has adopted a rule to provide direction for local implementation of watershed planning and management programs. The rule provides for watershed ranking committees in each of the 12 counties to develop priority rankings for local watersheds adversely affected by nonpoint sources of pollution. Watershed management committees will be formed in priority watersheds, consisting of a lead local agency (usually a county unless the watersheds are entirely within city or tribal boundaries) and representatives of other local government entities, special purpose districts, tribes, local planning agencies, the general public, and other affected parties. Watershed management committees will develop, adopt, and implement watershed action plans to prevent and reduce nonpoint source pollution within the watershed.

*Arizona Groundwater Management Areas*<sup>14</sup>

Arizona enacted a statewide program for groundwater management under the 1980 Arizona Groundwater Management Act. This legislation reached a compromise to respond to the growing conflict between municipal/industrial water demands and heavy use of groundwater for irrigated agriculture. The Act designated four active management areas (AMAs) and two irrigation non-expansion areas (INAs) with boundaries approximating major groundwater areas in the state. Within AMAs and INAs, groundwater withdrawals and use are managed to reduce and eventually eliminate groundwater overdrafting. Water conservation requirements for municipalities and industries are an integral component of the Act.

A recent survey found that at least 27 states, including Arizona, authorize the formation of special management areas to implement regional groundwater quantity management programs.<sup>15</sup> In some of these states, regulations to protect groundwater quality (such as land

use restrictions, agricultural fertilizer application rules, and wellhead protection plans) are used or authorized within such management areas.

### **Federally-mandated Water Planning Programs**

Federal statutes have mandated numerous water planning programs both for federal agencies and for implementation by the states and local governments. The sections below summarize only a few of these programs: the Title II River Basin Commissions, selected EPA planning programs, and Soil Conservation Service planning programs.

#### Title II River Basin Commissions<sup>16</sup>

Title II of the Water Resources Planning Act of 1965 (see discussion of the Water Resources Planning Act in Chapter II) authorized the establishment of federal-state regional institutions called river basin commissions. The Title II River Basin Commissions were planning agencies with no authority to own, construct, or operate projects; to regulate or manage river flow; or to regulate or manage water supply, water quality, riparian land use, or aquatic resources. Consequently, river basin commissions created under the Act had no direct powers to implement plans once they were developed.

The President established Title II River Basin Commissions by Executive Order upon written request of the Water Resources Council (WRC) or a state. The Act required the concurrence of WRC and at least half of the states in the area, basin, or group of basins involved before establishment of such commissions. If either the Upper Colorado River basin or Columbia River basin were to be included in a river basin commission, the Act required concurrence of at least three of four specifically named states in the basin. The President appointed the members of Title II River Basin Commissions, which included a chairman, representatives from each federal department or independent agency with substantial interest in the work of the commission, representatives from each state and any interstate compact agencies in the basin, and representatives from any international treaty organization with jurisdiction in the basin.

Seven Title II River Basin Commissions were established: the Pacific Northwest, Great Lakes, Souris-Red-Rainy, and New England in 1967, the Ohio in 1971, and the Missouri and Upper Mississippi River Basin Commissions in 1972. While the Souris-Red-Rainy River Basin Commission disbanded after completing a comprehensive plan, the other six commissions were active until President Reagan abolished the Title II River Basin Commissions in 1981.

Under the Act, the statutory duties of a Title II River Basin Commission were:

- To serve as the principal agency for coordination of federal, state, interstate, local, and nongovernmental plans for water and related land resources development in the basin;
- To prepare and keep up-to-date a comprehensive, coordinated, joint plan for development of the water and related land resources of the basin, including an

evaluation of alternative means of achieving optimum development and recommendations with respect to individual projects;

- To recommend priorities for data collection and analysis and for investigation, planning, and construction of projects; and
- To foster and undertake studies necessary to prepare its comprehensive plan.

Title II River Basin Commissions were required to submit their comprehensive plan to the WRC, which reviewed them and developed recommendations that were forwarded along with the plan to the President. The President reviewed WRC's recommendations and the comprehensive plan, and transmitted them to Congress with his recommendations. Title II River Basin Commission comprehensive plans typically placed a heavy emphasis on federal water resources development projects. The Title II River Basin Commissions also participated to varying degrees in other WRC planning activities, including regional or river basin studies (i.e., Level B plans).

Title II River Basin Commissions generally failed to involve local interests in the planning process as they had no direct representation on a commission. Consequently, river basin planning efforts did not engage local leadership and develop strong local political support. Moreover, a decline in political support for federal water resources development projects slowed Title II River Basin Commission activities. State and local governments began placing a higher priority on sewage treatment needs than traditional federal water resources development projects. In addition, flood control efforts shifted from flood protection via storage dams to floodplain management, which was largely a local program.

#### EPA Planning Programs

EPA programs that incorporate watershed-based planning or management are authorized primarily under the Clean Water Act (CWA). Watershed-based activities in CWA programs include:

- Areawide Waste Treatment Management Planning (Section 208),
- Interstate River Basin Planning (Section 209),
- State Nonpoint Source Management Plans (Section 319), and
- The National Estuary Program (Section 320).

In addition, the National Primary Drinking Water Regulations promulgated under the Safe Drinking Water Act (SDWA) require public water systems to maintain a watershed control program that minimizes the potential for microbiological contamination of the source water. Wellhead protection programs developed under Section 1428 of the SDWA may be used to meet these requirements for systems using a groundwater source under the direct influence of surface water.

*Areawide Waste Treatment Management Planning (Section 208)*

Areawide plans under Section 208 of the CWA were expected to coordinate all surface and ground water quality initiatives under a management strategy to control or treat industrial and municipal point sources, agricultural and urban runoff, silviculture, construction, mining, salt-water intrusion, runoff from solid waste sites, and accumulated sources of pollution such as deposits in harbors.<sup>17</sup> Despite a relatively comprehensive design, the Section 208 planning process failed to achieve its goals, largely because of program delays attributable to a lack of EPA guidance, state and local resistance to using Section 208 planning for land use control, and federal funding priorities that favored installation of point source controls in advance of planning.

*Interstate River Basin Planning (Section 209)*

Section 209 of the CWA required the Water Resources Council to prepare river basin plans (i.e., Level B plans), as required under the Water Resources Planning Act of 1965, for all basins in the United States by January 1, 1980. Section 209 also authorized funds to prepare the plans and called for giving priority to planning for areas with substantial water quality problems.

*State Nonpoint Source Management Programs (Section 319)*

Section 319, added by the Water Quality Act of 1987, establishes the nonpoint source management program mandated by the CWA. This program includes preparation of State Assessment Reports and State Nonpoint Source Management Programs. The advantages of watershed-based planning for nonpoint source controls are recognized in Section 319(b)(4) of the CWA, which provides that states should develop and implement their Nonpoint Source Management Programs on a "watershed-by-watershed basis" to the maximum extent practicable.

State Nonpoint Source Management Programs summarize state and local actions (i.e., best management practices) to control pollutant loadings from each category of nonpoint source pollution identified in State Assessment Reports. The state may take direct responsibility for implementation of the management plan or may designate local agencies as responsible for implementation of portions of the plan.

States must submit their Assessment Reports and Nonpoint Source Management Programs to EPA for approval. While all State Nonpoint Source Assessment Reports have been approved, some states have received only partial approval of their Nonpoint Source Management Programs. These delays are due, in part, to lack of adequate data to characterize the extent of nonpoint source pollution problems, the varying impacts of different categories of nonpoint source pollution on water quality, and the effectiveness of potential nonpoint source controls.<sup>18</sup>

*National Estuary Program (Section 320)*

Section 320, also added by the Water Quality Act of 1987, establishes the National Estuary Program (NEP). Section 320 calls for development and implementation of comprehensive conservation and management plans (CCMPs) that recommend priority corrective

actions and compliance schedules addressing point and nonpoint sources of pollution to protect and improve water quality and enhance the living resources of estuaries of national significance. For each estuary in the NEP, Section 320 authorizes the EPA Administrator to convene a Management Conference, consisting of representatives of federal, state, and local agencies, affected industries, academia, and the public. Management Conferences oversee studies and other planning activities, develop the CCMP, and implement priority actions identified in the CCMP. Currently, seventeen estuaries of national significance are in the NEP. The planning process and implementation efforts under the NEP have served to bring together a wide range of public and private interests within designated estuaries to work together on multi-disciplinary water quality improvement initiatives.

#### *Safe Drinking Water Act Regulations*

Section 141.71 of the National Primary Drinking Water Regulations promulgated under the SDWA requires public water systems to maintain a watershed control program that minimizes the potential for contamination by *Giardia lamblia* cysts and viruses in the source water. The states must review such programs, including an annual on-site inspection, to determine whether they are adequate to meet this goal. At a minimum, watershed control programs must characterize the watershed hydrology and land ownership, identify watershed characteristics and activities that may have an adverse effect on source water quality, and monitor the occurrence of such activities.

Public water systems must demonstrate through ownership and/or written agreements with landowners within the watershed that they can control all human activities that may have an adverse impact on the microbiological quality of the source water. Each system must submit an annual report to the state describing their watershed control program. Those systems using a groundwater source under the direct influence of surface water may use an approved wellhead protection program to meet these requirements if deemed appropriate by the state. Section 1428 of the 1986 SDWA Amendments requires that states establish wellhead protection areas and develop a program to protect the water supply within such areas from contamination.

#### Soil Conservation Service Planning Programs<sup>19</sup>

Under the Watershed Protection and Flood Prevention Act of 1954, the Soil Conservation Service (SCS) administers small watershed projects and river basin investigations, in cooperation with other federal agencies and the states. In addition, the SCS administers watershed projects authorized by the Flood Control Act of 1944 in 11 major watersheds (comprising about 30 million acres) in cooperation with other agencies.

#### *Small Watershed Program*

Small watershed projects are limited to a watershed area no larger than 250,000 acres by the Watershed Protection and Flood Prevention Act of 1954. Projects are typically multipurpose and may include flood prevention (defined by the SCS to include sedimentation control), agricultural water management, fish and wildlife development, municipal and industrial water supply, and public recreation. Such projects include establishment of conservation measures and construction of dams and other water control structures on upstream tributaries.

While small watershed projects may be developed on private and public lands, most projects are on private lands.

SCS planning procedures for small watershed projects require a great degree of local participation and also involve the states in the initial approval of applications and priority rating for approved projects. State agencies and qualified local agencies or nonprofit organizations sponsor or cosponsor projects. Qualified local sponsors include soil and water conservation districts or other special districts, municipalities, counties, and water users' associations. Local proposals are reviewed by designated state agencies, which also may provide financial or other assistance. Local sponsors acquire land and water rights, pay the local share of construction costs, award contracts for construction on private land or delegate contracting to SCS, and operate and maintain completed projects at their own expense.

The SCS provides technical assistance to help local sponsors develop a watershed plan, with the participation of other federal and state agencies. To receive federal assistance for structural flood control measures, local sponsors must obtain agreements from landowners to assure that at least half of the land above such structures is under basic conservation plans developed by landowners with technical assistance from soil and water conservation districts. Local sponsors receive federal financial assistance after a watershed plan is approved by the SCS, with the federal government paying the full cost of construction for flood prevention and providing cost sharing for other purposes, excluding water supply. Where a watershed plan calls for structures or improvements on public lands in a watershed, the responsible federal or state agency must install and maintain those measures.

The Small Watershed Program grew rapidly in the early 1960s and enjoyed strong grass roots support, in part because its planning process involved substantial local and state participation. In addition, the program was strongly supported by the National Association of Soil and Water Conservation Districts, which had played an important role in passage of the 1954 Act. However, because federal authorizations for planning assistance exceeded construction authorizations, a considerable project backlog had developed by 1970. Further program delays occurred as a result of environmentalist opposition to channel modification, which was a component of some small watershed projects. The SCS eventually modified its planning procedures to address more effectively the potential adverse environmental impacts of small watershed projects, particularly with regard to fish and wildlife habitat. The National Environmental Policy Act also played a significant role in SCS efforts to integrate review of environmental impacts into its planning procedures. The Small Watershed Program currently has 1,134 projects under construction in 49 states (excluding Rhode Island) and approved applications for projects covering 25,874,281 acres in 40 states.

#### *Interagency and Intergovernmental River Basin Planning*

Section 6 of the Watershed Protection and Flood Prevention Act of 1954 provides broad authority for USDA agencies to participate in interagency and intergovernmental river basin planning, surveys, and investigations. The SCS is the lead agency within USDA for such activities. In general, these cooperative river basin studies have had little influence on the selection of small watershed projects.

### State Water Planning Programs

The states take a wide variety of approaches to planning for water management. A recent report indicates that some 36 states support regional or river basin approaches to water management.<sup>20</sup> Typically, these efforts are designed as consensus-building policy making or planning processes where the states facilitate the creation and implementation of comprehensive water and related land resources management goals in cooperation with local governments and private interests. A good example of consensus-based water planning is the Kansas State Water Plan (which also has a permanent dedicated source of funding). However, many states would probably agree that reaching a consensus on comprehensive water management goals through their planning process presents many administrative and political challenges.

#### IV. DIMENSIONS OF EFFECTIVE WATERSHED PLANNING AND MANAGEMENT

The federal government and the states have undertaken a variety of attempts to establish regional programs and institutions for watershed planning and management and to ensure the intergovernmental coordination necessary for implementation of such programs. Based on a review of selected programs and institutions (summarized in Chapter III) and a literature review, the first two sections of this chapter outline the dimensions of effective watershed planning and watershed management, respectively. The specific points outlined below reflect basic principles generally agreed upon by water experts. In addition, they reflect the increasing complexity of U.S. water policy issues over the last 200 years (see Chapter II) and suggest a need for a national water policy institution to provide the necessary coordination and communication among levels of government and regional entities.

A number of studies, symposiums, and program initiatives have addressed issues associated with the effectiveness of watershed planning and management. The final section of this chapter summarizes the recommendations of two relevant studies and the goals of EPA's recent watershed initiative.

##### Dimensions of Effective Watershed Planning

- The overall goal of watershed planning should be to develop a continuing process of consensus building -- not to develop a discrete plan. In the past, planning efforts often ended with the preparation of plans that were never implemented.
- The planning process must involve all levels of government, the private sector, and most importantly, the public. Furthermore, the planning process should help create mechanisms for intergovernmental coordination, which is critical to implementing watershed management programs successfully.
- Planning should have a strategic focus, that is, the consensus-building process should weigh and set priorities and identify emerging problems. Priorities should be evaluated using a holistic watershed-based approach to the prevention and control of pollution and habitat protection.
- Once priorities are agreed upon, watershed plans should recommend actions that will achieve environmental results within the watershed in the most efficient and effective way.

### Dimensions of Effective Watershed Management

- Watershed management programs should be developed at the most appropriate geographic scale to address the specific problems identified in the planning process.
- Watershed management programs should develop mechanisms for intergovernmental decision making and coordination to implement basinwide management actions. Responsibility for other management actions should be allocated to the level of government -- federal, state, or local -- that can respond most effectively.
- Watershed-based programs should adopt a comprehensive management perspective -- that is, address the quality and quantity of surface and ground water, groundwater-surface water interactions, and the ecological health of aquatic and related land resources.
- Grass roots community involvement is essential to develop a strong local commitment for implementing watershed management programs. Public education and involvement is critical to developing political support for program implementation. Local government representation in management decision making helps build political support among local elected officials.
- Watershed management programs need well-defined channels to resolve disputes among water users or other affected parties.
- Agencies administering watershed management programs must have the legal authority to implement and enforce program requirements, whether management initiatives are implemented by regulation or by dispute resolution.
- A sound scientific understanding of the watershed is essential for effective management. Data collection efforts must be designed to provide the information needed for management decision making.
- Management programs should not focus exclusively on structural controls where nonstructural controls or education for pollution prevention, conservation, or resource protection are feasible means to solve water problems in a watershed. When needed, structural controls should be cost-effective.
- Watershed management agencies must have adequate financial resources to implement their program responsibilities. Where possible, financing mechanisms should be designed to recover the full costs of watershed management programs or services from beneficiaries or users.

### Relevant Studies or Initiatives

As Water Quality 2000 continues to examine watershed planning and management concepts, it is helpful to review the recommendations of two relevant studies -- the first by the U.S. Water Resources Council and the second by the U.S. Advisory Commission on Intergovernmental Relations -- as well as the goals of EPA's Watershed Protection Approach.

The Water Resources Council (WRC), which was mandated to study the adequacy of regional and river basin plans, commissioned a study of interstate arrangements for water resources planning. The study's 1980 report, entitled *Regional Water Resource Management Planning: Potential Interstate Institutional Entities for Water Resource Planning*, supported the previous position of the WRC that no single institutional arrangement for managing river basin operations was preferable over other alternative institutions. The report states:

For 65 years extensive institutional experimentation has taken place within the United States federal system as states and groups of states have sought to meet the objective of comprehensive, coordinated water resources planning and management. Most of the institutions developed during this period have been linked to, supported by, or have acted in collaboration with the multi-agency, congressionally controlled, water and related land resources programs of the federal government. The record also shows quite clearly that the nation has not been willing to substitute a single type of organizational arrangement such as new TVAs, basinwide state or federal-state compacts, river basin commissions or other entities for the mixed institutional system that now prevails.<sup>21</sup>

The 1980 WRC report identified a wide range of benefits that can be achieved from the planning process made possible by interstate institutions. Basin planning under interstate institutions can:

- Be designed in consideration of the specific problems of the basin;
- Reflect the unique physical, cultural, economic, and political character of the basin, and the relation of the basin to the adjoining region;
- Maintain, on a current basis, the most practical and effective allocation of functions and responsibilities among local, state, and federal entities where responsibilities are shared;
- Provide for a better responsiveness to the public who share the basin but not the same political institutions;
- Strengthen and support a continuous, comprehensive planning process;
- Provide more ready agreement on reserving some common interstate problems for the future;

- Provide an improved arena for conflict resolution while still preserving the essential prerogative of the Congress, state legislatures, and local general purpose governments;
- Provide a means for individual members to be aware of other members' actions and interests and of available or alternative means to implement programs not possible on an individual basis;
- Provide a guide to needed state/local action to support basinwide programs; and
- Allow for experimentation and program differentiation on a more manageable scale.<sup>22</sup>

Since this 1980 WRC report, the nation has focused much more attention on protection of groundwater resources, contamination of surface and ground water from nonpoint sources of pollution, and loss of aquatic habitat. Today, watershed planning and management must recognize that the boundaries of all water resource systems -- surface water systems, groundwater systems, or hydrologically interconnected surface and groundwater systems -- often do not coincide with state or local political boundaries or economic regions. In addition, comprehensive water management must address water quality and habitat protection in conjunction with the traditional water supply issues.

An October 1991 report by the U.S. Advisory Commission on Intergovernmental Relations (ACIR), entitled *Coordinating Water Resources in the Federal System: The Groundwater-Surface Water Connection*, found that the nation's current water resources problems are largely problems of insufficient interagency and intergovernmental coordination.<sup>23</sup> ACIR's recommendation on encouraging better coordinated governance of water resources includes recommending that state officials take action to promote water resource coordination:

The Commission recommends . . . that state government officials support and encourage coordinated use of water resources within their borders. Coordination mechanisms, which may include interjurisdictional arrangements as well as the creation of new public jurisdictions, should be empowered to undertake the range of functions necessary to coordinate the allocation, conservation, storage, and use of surface and underground water supplies, where coordinated use is appropriate. To the maximum extent feasible, in order to ensure sustainable programs of water resource development, use, conservation, and protection, these coordination mechanisms should be self-governing, directed by the water users themselves and the affected local and state officials. To the extent feasible, these governance structures should be self-financing, with costs assigned among benefited water users and local governments, and with financial participation by the states to the extent that benefits are statewide.<sup>24</sup>

ACIR's recommendation on encouraging better coordinated governance of water resources also includes recommending the use of interstate regions for water resource coordination where water resource systems extend beyond state boundaries:

Because many systems of surface and underground water resources extend beyond state boundaries, the Commission recommends that the Congress authorize and approve the creation of interstate regional mechanisms, including joint federal-interstate compacts, for governing the coordinated use of surface water supplies and storage with groundwater supplies and storage, where such coordinated use is appropriate. These interstate mechanisms, which will necessarily include interjurisdictional arrangements as well as new public jurisdictions, should be empowered to undertake the range of functions necessary to achieve coordinated use and conservation. Federal agencies involved in the operation of federal surface water projects should be directed to cooperate with the coordinated use programs of these interstate mechanisms. Except in clear instances of violation of federal laws or the United States Constitution, no federal official or agency should be authorized to withhold participation in or veto a coordinated water resource program established by interstate agreement. Interstate water resource coordination mechanisms should be (a) established pursuant to negotiations among the parties affected; (b) self-governing; (c) directed by representatives of affected state and local governments, the federal government, and water users; (d) self-financing to the extent possible; and (e) empowered to take effective action within the scope of responsibility agreed to. The Congress and the President should encourage the negotiation and approval of federal-interstate compacts in water resource basins where states request them.<sup>25</sup>

Finally, ACIR recommends federal restraint to allow maximum flexibility to state and local governments:

Because of the diversity of state and local government structures and responsibilities, as well as the diversity of water rights and water resources situations, the Congress and the Executive Branch should not impose any particular management form on states and local governments, whether through mandates or through conditions on participation in federal programs.<sup>26</sup>

EPA's Watershed Protection Approach<sup>27</sup> recognizes that the nation's current clean water program has failed to address overall ecological health and habitat health, often has not considered the cumulative effects of different types of pollution from different sources of pollution, and has not taken advantage of opportunities to involve local decision makers and other responsible parties in cooperative efforts to improve the ecological health of specific waterbodies. The Watershed Protection Approach is intended to be a mechanism that promotes incremental improvements in the nation's approach to watershed protection. The Watershed Protection Approach will provide a framework for cooperation among all levels of government and the public to target high priority watersheds and implement watershed-specific plans.

The overall goal of the Watershed Protection Approach is to reorient EPA and other federal agency, state, and local programs to address watershed protection in a holistic manner. Specific goals listed in EPA's draft goal statement are:

- To encourage state and local governments to target watersheds based on ecological risk;
- To encourage the development of site-specific watershed protection measures based on a holistic, integrated approach to address both traditional and non-traditional sources;
- To establish processes in which all decision-makers at all levels of government, different agencies, and other stakeholders work together to implement solutions; and
- To establish effective programs to measure success and continuous improvements.<sup>28</sup>

## NOTES

- 1 Water Quality 2000 Watershed Work Group, "Phase II Report" and "Appendix 1--Water Quality Protection and Remediation: The Need for an Integrated Approach, A Concept Paper."
- 2 This chapter draws from several sources. Theodore M. Schad, "Past, Present, and Future of Water Resources Management in the United States," in *Water Management in the 21st Century*, AWRA Special Publication No. 89-2 (Bethesda, Maryland: American Water Resources Association, 1989), pp. 1-7; Henry P. Caulfield, Jr., "Future Water Management Problems: The Federal Role in their Solution," in *Water Management in the 21st Century*, AWRA Special Publication No. 89-2 (Bethesda, Maryland: American Water Resources Association, 1989), pp. 21-29; Water Pollution Control Federation, *The Clean Water Act of 1987* (Alexandria, Virginia: WPCF, 1987); *Water Resources Planning and Management in the United States Federal System*, a report of a conference sponsored by The Engineering Foundation and The Universities Council on Water Resources, July 1986 with supplemental material through 1988; and Beatrice Hort Holmes, *History of Federal Water Resources Programs and Policies, 1961-70*, Natural Resource Economics Division, Economics, Statistics, and Cooperatives Service, U.S. Department of Agriculture, Miscellaneous Publication No. 1379 (September 1979).
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- 4 Beatrice Hort Holmes, *History of Federal Water Resources Programs and Policies, 1961-1970*, Natural Resource Economics Division, Economics, Statistics, and Cooperatives Service, U.S. Department of Agriculture, Miscellaneous Publication No. 1379 (September 1979), pp. 242-248; National Water Commission, *A Summary-Digest of the Federal Water Laws and Programs* (Washington, DC: U.S. Government Printing Office, 1973), pp. 189-193; Daniel Schaffer, "Managing Water in the Tennessee Valley in the Post-War Period," *Environmental Review* (Summer 1989), pp. 1-16.
- 5 Daniel Schaffer, "Managing Water in the Tennessee Valley in the Post-War Period," *Environmental Review* (Summer 1989), endnote 3.
- 6 *Environment Reporter*; U.S. Advisory Commission on Intergovernmental Relations, *Coordinating Water Resources in the Federal System: The Groundwater-Surface Water Connection*, (October 1991), p. 45; Beatrice Hort Holmes, *History of Federal Water Resources Programs and Policies, 1961-1970*, Natural Resource Economics Division, Economics, Statistics, and Cooperatives Service, U.S. Department of Agriculture, Miscellaneous Publication No. 1379 (September 1979), pp. 62-65; National Water Commission, *A Summary-Digest of the Federal Water Laws and Programs* (Washington, DC: U.S. Government Printing Office, 1973), pp. 90-93, 187-188.
- 7 National Water Commission, *New Directions in U.S. Water Policy: Summary, Conclusions and Recommendations from the Final Report of the National Water Commission* (Washington, DC: U.S. Government Printing Office, 1973), p. 151.

8 Beatrice Hort Holmes, *History of Federal Water Resources Programs and Policies, 1961-1970*, Natural Resource Economics Division, Economics, Statistics, and Cooperatives Service, U.S. Department of Agriculture, Miscellaneous Publication No. 1379 (September 1979), pp. 63-66, 275-276; National Water Commission, *A Summary-Digest of the Federal Water Laws and Programs* (Washington, DC: U.S. Government Printing Office, 1973), pp. 90-93; and "Do's and Don'ts of Interstate-Regional Cooperation," Special Supplement to Mon Valley Tri-State Network, Inc. Board Meeting Report, January 14, 1991.

9 *Environment Reporter*; Beatrice Hort Holmes, *History of Federal Water Resources Programs and Policies, 1961-1970*, Natural Resource Economics Division, Economics, Statistics, and Cooperatives Service, U.S. Department of Agriculture, Miscellaneous Publication No. 1379 (September 1979), pp. 276-277; and National Water Commission, *A Summary-Digest of the Federal Water Laws and Programs* (Washington, DC: U.S. Government Printing Office, 1973), pp. 187-188.

10 U.S. Advisory Commission on Intergovernmental Relations, *Coordinating Water Resources in the Federal System: The Groundwater-Surface Water Connection*, (October 1991), p. 44; and U.S. Water Resources Council, "Regional Water Resource Management Planning: Potential Interstate Institutional Entities for Water Resource Planning," prepared by Leonard B. Dworsky and David J. Allee (July 1980) pp. 4-5.

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- 19 Beatrice Hort Holmes, *History of Federal Water Resources Programs and Policies, 1961-1970*, Natural Resource Economics Division, Economics, Statistics, and Cooperatives Service, U.S. Department of Agriculture, Miscellaneous Publication No. 1379 (September 1979), pp. 20-25, 165-184; and Soil Conservation Service, Small Watershed Projects Information Packet.
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- 22 U.S. Water Resources Council, "Regional Water Resource Management Planning: Potential Interstate Institutional Entities for Water Resource Planning," prepared by Leonard B. Dworsky and David J. Allee (July 1980), pp. 30-31.
- 23 U.S. Advisory Commission on Intergovernmental Relations, *Coordinating Water Resources in the Federal System: The Groundwater-Surface Water Connection*, (October 1991), p. 1.
- 24 U.S. Advisory Commission on Intergovernmental Relations, *Coordinating Water Resources in the Federal System: The Groundwater-Surface Water Connection*, (October 1991), p. 5.
- 25 U.S. Advisory Commission on Intergovernmental Relations, *Coordinating Water Resources in the Federal System: The Groundwater-Surface Water Connection*, (October 1991), p. 5.
- 26 U.S. Advisory Commission on Intergovernmental Relations, *Coordinating Water Resources in the Federal System: The Groundwater-Surface Water Connection*, (October 1991), p. 5.
- 27 Memorandum (with attachments) from Robert H. Wayland on Draft Goal Statement and Process for the Watershed Protection Initiative (June 14, 1991).
- 28 "Watershed Protection Initiative Draft," p. 1; Attachment to Memorandum from Robert H. Wayland on Draft Goal Statement and Process for the Watershed Protection Initiative (June 14, 1991).



## ***Executive Summary***

### **Water Quality 2000 Phase III Report**

#### ***"A National Water Agenda for the 21st Century"***

**W**ater Quality 2000 is a cooperative effort of more than 80 public, private, and nonprofit organizations. In 1988, we began a four-phase effort to develop an integrated national policy for U.S. water quality and surface and ground water resource protection. This policy supports Water Quality 2000's vision — a society living in harmony with healthy natural systems. Our Interim Report, published in June 1991, identified problems with current water quality policies and programs. This report builds on that foundation to present consensus recommendations for improvement, as developed by over 125 individuals serving on five working groups and a Steering Committee. During the next phase of our work, Water Quality 2000 and the participating organizations will transmit these recommendations to Congress, the Executive Branch, state and local governments, business and professional leaders, and others whose actions influence water quality.

#### **The Condition of the Nation's Waters and Aquatic Habitat**

The Interim Report concluded that progress has been made in improving the condition of the nation's waters over the past 20 years, but, nonetheless, the national goal of "fishable and swimmable" waters has not been attained in many areas. Moreover, much work remains to achieve the broader, overall objectives of a wide range of water legislation, including the broad objective of the Clean Water Act — to restore and maintain the chemical, physical, and biological integrity of the nation's waters.

Conclusions about the condition of the nation's waters are complicated by the fact that data on water quality and the health of ecosystems are incomplete. Data on the release of contaminants is incomplete, covering only a fraction of all waters and typically, a small number of pollutants. The lack of such basic information leads to conflicting assessments of our progress. Evidence indicates that progress is being made. Nonetheless, reports demonstrate that surface waters are contaminated by siltation, nutrients, organic matter, and hazardous materials; groundwater contamination results from animal wastes, fertilizers, pesticides, and other agricultural sources, from industrial sources such as manufacturing processes, leaking underground storage tanks, and spills, and from interaction with contaminated surface waters; and wetlands and riparian areas continue to be destroyed or degraded by a wide variety of human activities. Some aquatic ecosystems are also stressed by changes in physical habitat, altered flows and water tables, overharvesting, and introduced species.

#### **Causes of Water Quality Problems**

The fundamental causes of current water quality problems lie in seemingly unrelated aspects of life: the way we farm, produce, consume, transport people and goods, and plan for the future. Many aspects of modern

life and our past practices put pressure on water quality. Until recently, these activities proceeded with little recognition of the degradation they caused to surface waters, groundwater, and aquatic habitat. When the conflicts between these activities and water quality were recognized, they were resolved through relatively narrow efforts focusing on the direct sources of impairment but not necessarily the root causes of the problem. Water Quality 2000's vision will be achieved only if we reshape societal functions in ways that are compatible with protecting water resources.

Sources that contribute to current water quality impairment include (in alphabetical order):

- agricultural activities;
- community wastewater discharges;
- deposition of atmospheric contaminants;
- industrial activities, including the manufacturing, service, power generating, and waste management sectors;
- land alteration, including logging, mining, road building, and commercial and residential development;
- stocking and harvest of aquatic species;
- transportation activities, including shipping, surface transportation, automobiles, pipelines, dredging, and facilities construction and operation;
- urban runoff, including municipal and industrial stormwater; and
- water projects, including dams, reservoirs, and channelization.

## Impediments to Solutions

In addition to societal factors, the Interim Report identifies seven impediments to further improvements in water quality caused by shortcomings in current water quality policies and programs. In the near-term, opportunities exist to improve water quality by addressing these seven impediments:

- ***Narrowly focused water policies*** impede holistic solutions that address cross-media effects, the connection between groundwater and surface water and between water quantity and water quality;
  - ***Conflicts among water quality institutions*** impede collaboration between all levels of government, the private sector, and individuals;
  - ***Legislative and regulatory overlaps, conflicts, and gaps*** create inefficient or ineffective solutions or leave water resources underprotected;
  - ***Funding and incentives for clean water*** programs are out of touch with public opinion and actual need;
  - ***Inadequate attention to the need for trained personnel*** has resulted in a serious gap between a limited supply of trained professionals and a growing demand for their skills;
  - ***Research and development programs are insufficient to meet the challenge*** posed by the complexity of today's water quality problems and the need to improve basic scientific understanding; and
  - ***Inadequate communication*** has resulted in a public that is largely unaware of the linkages between daily life and water resources, what they can do to improve water quality, and why they should care in the first place.
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## Problems to Solutions

Public and private efforts to protect water resources have produced some successes, but there is significant room for improvement. Some problems have been solved, others await the results of programs only recently put in place, and others remain challenges for the future. Water Quality 2000 identified 12 such challenges for further consideration in Phase III:

- Preventing pollution,
- Controlling runoff from urban and rural lands,
- Focusing on toxic constituents,
- Protecting aquatic ecosystems,
- Coping with multi-media pollution
- Protecting groundwater,
- Increasing scientific understanding of water quality issues,
- Promoting wise use of resources,
- Setting priorities,
- Providing safe drinking water,
- Managing growth and development, and
- Financing water resource improvements.

Our development of recommendations for improvement was organized around these 12 challenges. Five "challenge groups" were formed to address specific concerns identified in the Interim Report against a backdrop of Water Quality 2000's Vision and Goal adopted in May 1989. The recommendations developed by these groups included many of the traditional tools for change — education, incentives, regulations, training, and research. But there were also several themes common to the work of all five groups that form the basis of an integrated strategy for protecting surface and ground water resources.

### *National Water Resources Policy — A First Step*

The United States has no unified national policy that observes the principles of integrated land and water resource planning and management. Instead, our water policies comprise a patchwork of narrow, often conflicting objectives; jurisdictional conflicts mark both the legislative and executive branches of the federal and some state governments; sound economic principles are often missing from resource allocation decisions; and many sources of water quality impairment remain unaddressed or underaddressed.

Water Quality 2000 concludes that a new national water policy is needed to integrate planning and management to protect surface and ground water resources with related societal activities under a watershed framework. This policy and a national strategy to protect water resources must be based on the principles of pollution prevention and resource conservation and must be designed to incorporate concern for water resources into every aspect of human activity. We must strive to integrate institutions, ecology, economics, and where appropriate, technology. We envision three strategies comprising our policy framework:

- Protecting water resources by preventing pollution;
- Empowering all segments of society to contribute to water resource improvements through increased individual and collective responsibility; and
- Planning and managing water quality and quantity on a watershed basis.

In short, an integrated, national policy that supports society living in harmony with healthy natural systems.

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### Preventing Pollution and Water Resource Degradation

Avoiding the degradation of natural systems is preferable, on ecological and economic grounds, to mitigating damages after they have occurred. Generally associated with the industrial sector, pollution prevention is equally applicable and useful as a guiding principle for other sectors or sources of impairment. Water Quality 2000, therefore, recommends the following:

- **Nonpoint Sources (Runoff and Leachate)**

Congress should fully fund a strengthened and expanded national nonpoint source (runoff and leachate) pollution prevention program under Section 319 of the Clean Water Act that encompasses all sources of runoff and leachate including agriculture, land development, transportation, and forestry. Program components should include (1) EPA-approved, enforceable state programs to be implemented in conjunction with regional watershed authorities; (2) a combination of voluntary and mandatory targeted pollution prevention plans for individual land users, such as farmers; (3) technical assistance programs administered by USDA for the farm sector and other agencies as appropriate for the other sectors; and (4) new federal/state revolving loan programs to help finance improvements on individual tracts of land, such as farms or forest tracts.

- **Energy and Transportation**

Water Quality 2000's recommendations to promote pollution prevention in the energy and transportation sectors include: (1) enactment of a federal production tax credit for renewable energy supplies; (2) building and equipment energy-efficiency standards; (3) incentives to stimulate the use of mass transit in high-density urban areas; and (4) improved transportation fuel efficiency.

- **Industry**

To promote additional progress in pollution prevention for the industrial sector, Water Quality 2000 recommends (1) increased incentives for industry to implement pollution prevention; (2) the development of facility-level pollution prevention plans; (3) voluntary steps by industry to review and modify internal processes or end products; (4) government control of product uses in appropriate situations; and (5) a national effort to develop and refine life cycle assessment analyses as a tool for identifying opportunities for improved pollution prevention.

- **Households**

A series of actions are recommended to reduce pollution from the household sector: (1) industry should adopt product labelling practices that indicate materials and energy efficiency associated with consumer products; (2) local governments should undertake programs to make household pollution prevention easier; and (3) Congress and state and local legislatures should offer financial incentives to encourage individual actions to reduce pollution.

The Pollution Prevention Act of 1990 provided a much needed first step toward institutionalizing pollution prevention for all sources by declaring that pollution prevention was a "national objective." It will be critical for EPA and others to implement programs under this Act in full recognition of the need for broad application of pollution prevention principles to all media, all sources of adverse environmental effects, and all sectors of the U.S. economy.

### Individual and Collective Responsibility for Water Resources

Water Quality 2000's Vision and Goal can only be realized if the American people as individuals and collectively as members of the community adopt a heightened sense of responsibility for protecting water resources.

Although much can be accomplished through leadership and education, experience has shown that purely voluntary behavior will not always change behavior sufficiently. Some people will change their actions for altruistic reasons; others will require some incentive to do so. And, invariably, some people and businesses will require more than incentives and education to take responsible actions. The following actions will help ensure individual and collective responsibility for protecting water resources:

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- **Education** — all levels of government, the media, trade, and professional societies and academic institutions can help to educate individuals and businesses about how their actions may degrade water resources and what actions can be taken to reduce or eliminate those impacts.
- **Incentives and financial assistance** — Often individuals and businesses want to make changes to protect water resources but lack the financial resources to do so.
- **Facilitation** — Government must make responsible behavior easier by, for example, working with the private sector to provide for collection, recycling, and proper disposal facilities for small quantities of hazardous waste.
- **Regulation** — Regulation of some activities is a necessary part of governmental efforts to protect water quality and aquatic resources.

#### A Watershed Basis for Watershed Planning and Management

Most natural events and economic activities affect the quality of water resources principally within watershed boundaries. As a result, watersheds constitute the most sensible hydrologic unit within which actions should be taken to restore and protect water quality. In fact, watersheds also may define the appropriate spatial boundaries for total environmental and economic planning.

This approach provides the framework to evaluate natural resource problems using a natural systems approach. Controls developed at the national and state level must be combined with individually developed strategies for unique river basins, watersheds, and collection basins or receiving waters. Implementation and funding of protection efforts within watersheds motivates individual action and provides the public reasonable assurance that those asked to pay for clean-up will also enjoy its benefits. Watershed-based management provides a far better opportunity to resolve intergovernmental or interjurisdictional conflicts, establish goals and priorities through collaboration and consensus, and manage for results. Moreover, watersheds allow for flexibility to address water quality/quantity problems and their interaction in different climatic settings.

Under EPA and state leadership, we can point to several useful examples of watershed *planning*, but more limited progress has been made in watershed *management*. Consequently, Water Quality 2000 recommends that:

- *Congress should create a new national program of watershed planning and management, including a mandate for implementation of activities as a condition of participating in planning.*
  - *Congress should impose no particular management form on the states and should build upon existing watershed mechanisms. However, planning and management institutions should be required for all 21 of the major riverine watersheds in the United States.*
  - *Congress should encourage, authorize, and approve the creation of interstate regional mechanisms, including joint federal-interstate compacts, as requested by states to plan and manage water resources. Where appropriate, watershed planning and management institutions should be nested, reflecting the multiple orders of progressively larger watersheds. Institutions created to manage smaller watersheds should participate in planning and management of the large watersheds to which they belong. Such a nested hierarchy could be organized at the top with an umbrella planning institution for each major riverine watershed. These institutions should include a mechanism to plan for protection of groundwater resources that cross watershed boundaries.*
  - *Many of the other recommendations contained in this report — including many of the pollution prevention recommendations — should be implemented as needed to support the goals of individual watershed plans. Other activities particularly well suited for implementation under a watershed framework include (1) land-use planning, (2) drinking water delivery, (3) operation of water resources structures, (4) range- and pastureland management, and (5) urban lands management.*
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## Getting from Problems to Solutions — The Tools of Change

In our Interim Report, Water Quality 2000 identified several fundamental impediments to achieving the nation's clean water goals. At the conclusion of the report, these impediments were recast as specific challenges to ourselves and the broader community. These challenges provide a framework for organizing our 85 specific consensus recommendations.

Along with the three strategies for protection of surface and ground water resources suggested above, these recommendations comprise what we believe to be a representative and balanced call to action. But despite the broad scope of issues addressed, these recommendations are still not comprehensive. Some important issues were either beyond the scope of Water Quality 2000 or the expertise of the participants. These included international water quality and water management problems, the effect of climate change on water resources, the need for a U.S. population policy, and appropriate funding mechanisms for all Water Quality 2000 recommendations.

In addition, consensus was not achieved on every issue discussed. Issues where Water Quality 2000 participants were unable to agree included: appropriate standards for control of combined sewer overflows; the need for an outright ban on underground injection of hazardous substances; the appropriate approach to prevent groundwater contamination from surface impoundments not subject to current law; the need for comprehensive federal groundwater legislation and national groundwater cleanup standards; and the role of risk assessment in establishing water quality priorities. Other areas of disagreement are noted in the report. In general, differences involved specific actions needed to implement agreed-upon goals.

### *Securing Public Commitment Through Education and Training*

Environmental education for all ages can promote long-run societal changes that address the causes of pollution. Environmental education and training programs should be offered to a wide range of professionals, such as locally elected and appointed officials, legislators, industrial and utility managers, journalists, and teachers. Water resources professionals will require specialized training in natural resources fields, as will other natural resources managers.

Solutions lie in new programs of environmental education beginning in elementary school and continuing throughout all levels of education and professional training.

### *Preventing Pollution*

Pollution prevention is at the heart of Water Quality 2000's Vision Statement and Goals. Perhaps our greatest challenge lies in preventing pollution associated with runoff from rural and urban lands. Preventing pollution from agricultural practices may return the most dramatic improvements in water quality because of the vast land areas used for agricultural production and the historical absence of attention paid to this source.

Solutions lie in implementing pollution prevention programs across all media and providing incentives so that all sectors of society will adopt prevention practices as a way of life.

### *Promoting Wise Use of Resources*

Using resources wisely is conceptually analogous to preventing pollution. That is, rather than using water, energy, and natural and other resources wastefully and having to find more of them as a consequence, using resources wisely from the outset recognizes their value to society, reduces impairment of ecosystem functions and values, and builds individual responsibility for protecting water resources.

Like pollution prevention, the potential to use resources more wisely exists in all sectors. Consequently, long-run solutions ultimately lie in educating society — in changing the way society values water and natural resources. In the near-term, solutions lie in government programs, such as metering water use and others to improve the efficiency of water use, economic incentives to promote utility energy conservation, and programs to increase recycling of household waste and promote beneficial use of biosolids.

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### ***Managing Growth and Development***

Inadequately controlled growth and development is the principal cause of water quality and water resource degradation in coastal zones and riparian habitats. Many activities associated with low-density development are potential sources of surface and ground water resource contamination.

Solutions lie in comprehensive, growth management aimed at reducing low-density sprawl, protecting aquatic resources from the effects of waterfront development, drawing attention to the connection between land use and the quality of groundwater, and other measures to protect aquatic resources from degradation associated with land development.

### ***Increasing Scientific Understanding and Improving Technologies***

Many current water quality problems can be solved with current technologies. In more limited instances, technological innovation is itself an impediment. Also, additional progress in water resource protection will occur only if we are prepared with a sound scientific understanding of the interconnectedness of institutions, ecology, and economics. While advancements in science and technology will have measurable near-term benefits, an even greater return from such advancements can be expected within, perhaps, the next 10 to 20 years.

Solutions lie in strengthening basic scientific activities, such as data collection and monitoring of the health of ecosystems, and in more applied endeavors, such as research and development in new pollution prevention technologies, methods to restore degraded habitat, or ways to evaluate the effectiveness of water conservation strategies.

### ***Eliminating, Resolving, and Filling Regulatory and Legislative Overlaps, Conflicts, and Gaps***

While a mix of voluntary and mandatory programs is appropriate, all of Water Quality 2000's Phase III Challenge Groups identified opportunities to improve our statutes and regulatory programs. Recommendations are presented in this section with the recognition that the list of improvements is incomplete. But because of the attention they received from hundreds of water professionals, our hope is that these recommendations address the most important overlaps, conflicts, and gaps.

Recommendations include broader protection of wetlands and public water supplies, development of water quality criteria for all pesticides, restructuring federal farm commodity programs to remove disincentives for stewardship, improved regulation of the bottled water industry, and development of national septic system standards.

### ***Strengthening Existing Federal Programs***

Many ongoing programs administered by the U.S. Environmental Protection Agency, U.S. Department of Agriculture, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, Bureau of Reclamation, and others are working well or could be improved with relatively minor changes. Still others have the promise of accomplishing goals but face resource constraints or political resistance.

This section highlights the many examples of such programs and makes recommendations regarding the nature of improvements needed to strengthen and continue them. Not all programs are covered; the absence of a program does not necessarily mean that it is not working or should be discontinued.

Recommendations for strengthening existing federal programs include development of effluent guidelines and standards for new and previously identified industries, adequate funding for NPDES permit programs, pretreatment program improvements, state promulgation of water quality standards for toxic constituents, prevention of spills by waterborne transport, and steps to reduce deposition of atmospheric contaminants.

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### **Providing Incentives and Funding for Water Quality Improvements**

The financing systems established for water programs must recognize that, in the end, we all contribute to water resource problems and we all must contribute to solve them. Although specific funding mechanisms were not addressed, Water Quality 2000 endorses a renewed federal commitment to financing water quality improvements, in part through general revenues. At the same time, by reducing costs through pollution prevention, individuals and private enterprise should gain some sense that remaining financing methods are relatively efficient and effective.

To the greatest extent possible, users of direct environmental services must be asked to pay the full cost of supplying the service (with safeguards to ensure lifeline services for those in need), in rough proportion to their individual levels of use; beneficiaries of investments in clean water must be asked to pay for such improvements in rough proportion to their receipt of benefits; and contributors to water quality impairment must be asked to pay for cleanup in rough proportion to the costs they impose on ecosystems.

### **A Management Approach for Solving Water Quality Problems**

Correcting the range of problems associated with U.S. water quality will require a long-term strategy that specifies what exactly is to be accomplished, who is responsible for assuring progress, and how incremental progress can be measured. It must recognize that all of society contributes to water quality impairment, that all of society benefits from improvements, and that all of society must contribute to solutions.

A sensible strategy will begin with several short-term actions—strengthening state and local infrastructure, consolidating overlapping authorities, and simplifying decision-making processes, for example. For the long term, however, solutions must engage all sectors of society. All levels of government, industry, professional organizations, the media, and individual citizens must all play a role.

### **Next Steps — Implementing a New National Water Resources Policy**

This report and the Interim Report that preceded it present a wide-ranging discussion of current problems, the causes of these problems, and steps that we must take as a nation to achieve Water Quality 2000's vision: society living in harmony with healthy natural systems.

Implementing this vision will in many instances require fundamental changes in our governmental institutions, manufacturing or farming practices, and individual life-styles. The Water Quality 2000 member organizations are ready to move forward with a broad agenda for change that includes actions related to education, training, legislation, and regulation, science and technology, financing and incentives, and basic societal change.

As we approach the 21st century, ensuring healthy ecosystems and an adequate and safe water supply will require a sustained, collaborative effort by all sectors of society. Each of the organizations ratifying this report is committed to working individually and collectively to meet this challenge. We are optimistic we will succeed and urge all who care about protecting water resources to join us in this effort.

This is a reprint of the Executive Summary of the Water Quality 2000 Phase III Report, *A National Water Agenda for the 21st Century*. The full 180-page report includes a list of organizations that have endorsed the report, along with the full text of two minority reports that were submitted.

Copies of *A National Water Agenda for the 21st Century* are available for purchase from Water Environment Federation, 601 Wythe Street, Alexandria, VA 22314-1994. The cost is \$25, plus postage and handling. Call 800-666-0206 and specify order number TT02.

The Water Quality 2000 Interim Report, *Challenges for the Future*, is also available. A discount is available when purchasing both reports or for large quantity orders.





# REAUTHORIZATION OF THE FEDERAL WATER POLLUTION CONTROL ACT

THURSDAY, APRIL 1, 1993

HOUSE OF REPRESENTATIVES, SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT, COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION,

*Washington, DC.*

The subcommittee met, pursuant to recess, at 9:35 p.m. in room 2167, Rayburn House Office Building, Hon. Douglas Applegate (chairman of the subcommittee) presiding.

Mr. APPLGATE. Good morning to everybody.

This morning the Subcommittee on Water Resources and Environment will meet to continue its hearings on issues concerning reauthorization of the Clean Water Act.

At yesterday's hearing we received testimony from representatives of State interests discussing issues important to the States. At today's hearing, we will be hearing from representatives of local governments on issues of concerns to those particular political entities.

One of the central themes of yesterday's hearings, and one which will be repeated today is the need to make wise use of our limited resources in addressing water pollution problems.

I know that all levels of government there are not infinite resources to devote to water pollution control, as we all know. At the same time, people want continued improvement to water quality. Therefore, we welcome the suggestions of witnesses, such as yesterday's and today's, on ways to achieve water quality improvements and not bankrupt State and local resources.

Before we begin with our first witness, I will yield to my very distinguished colleague, the ranking Republican member of the subcommittee, Mr. Boehlert of New York.

Mr. BOEHLERT. Thank you very much, Mr. Chairman.

Yesterday we heard some very enlightening testimony from the organizations involved in administering the State Revolving Funds. Throughout the day calls for greater flexibility and continued capitalization of the SRF program were repeated.

I stand convinced that the SRF approach is the most effective and efficient way to fund the construction of waste water treatment facilities. With small adjustments to the current SRF program—and the adjustment I have in mind at this stage is a principal subsidy program—and continued Federal funding, I believe this program will allow us to realize the lofty clean water goals we placed our sights on back in 1972. In fact, I am convinced that we must increase Federal funding of the SRF.

America's water infrastructure needs are enormous, but they must be met. Our Nation's rich endowment of pure water has been central to our success, and we must continue to protect and preserve this very valuable resource.

Today we will hear from those people on the front line in the battle to protect America's waters. Their thoughts and insights will be essential in the crafting of effective clean water legislation. I look forward to their testimony.

Mr. APPELLEGATE. Thank you, Mr. Boehlert.

We'll have two panels today, first of which we will begin with the National Association of Counties, Mr. Reed Madden, and if he will come to the table; and the National Conference of Mayors, Mr. Tom Barnes.

Mr. POSHARD. Mr. Chairman.

Mr. APPELLEGATE. Mr. Poshard.

Mr. POSHARD. May I ask unanimous consent to submit a statement for the record, please.

Mr. APPELLEGATE. Without objection.

Mr. POSHARD. Thank you, sir.

[Mr. Poshard's prepared statement follows:]

#### STATEMENT OF HON. GLENN POSHARD

Mr. Chairman and members of the subcommittee, I am pleased to be here this morning to hear testimony about the problems relating to rural water supplies and treatment facilities.

I represent a large rural area in central and southern Illinois that is largely a coal mining and farming community. I have been part of the Lower Mississippi Delta Caucus for the last 3 years and much of our work has focused on how to provide basic services to communities in our districts. Many of the counties in my district have experienced chronic, double-digit unemployment. Therefore, these counties and municipalities simply do not have the tax base nor the economic resources to construct wastewater facilities or to provide clean drinking water to the citizens.

Determining the appropriate funding mechanisms to help the poor, rural communities of our Nation is critical. I look forward to hearing from the panelists as to possible solutions.

Thank you, Mr. Chairman.

Mr. APPELLEGATE. Okay, gentlemen, we're certainly anxious to hear what you have to say addressing an extremely important issue, which is of necessity to you.

Mr. Madden.

#### TESTIMONY OF W. REED MADDEN, CHAIRMAN, NATIONAL ASSOCIATION OF COUNTIES ENVIRONMENT, ENERGY, AND LAND USE STEERING COMMITTEE AND HON. THOMAS V. BARNES, MAYOR, CITY OF GARY, IN, ON BEHALF OF THE U.S. CONFERENCE OF MAYORS

Mr. MADDEN. Thank you, Mr. Chairman and member of the committee. Thank you again for the opportunity to testify today on the reauthorization of the Clean Water Act.

I am W. Reed Madden, Chairman of the Board of County Commissioners of Greene County, Ohio, and Chairman of the Environment, Energy, and Land Use Steering Committee for the National Association of Counties, known as NACO.

With your permission, Mr. Chairman, I would like to offer my formal testimony for the record and summarize NACO's views.

Mr. APPELLEGATE. Without objection.

Mr. MADDEN. NACO believes that the protection of the environment is essential to our country's economic future. In most States, counties and cities are the primary service delivers of clean water and for that reason we are especially aware of the importance of these hearings as you begin the process of reauthorizing the Clean Water Act.

Let me say at the outset, that our Nation's counties fully support the goals of the Clean Water Act. We realize, however, that more than twenty years after the first passage of the Clean Water Act we still have not achieved the goal of fishable and swimmable waters throughout our Nation.

Mr. Chairman, perhaps it is time to re-examine the feasibility of reaching that goal. Given our limited resources, imperfect science, and the need to prioritize our most serious risks, we may have to accept the fact that every body of water cannot be made fishable and swimmable.

Local elected officials know that we must continue to invest in pollution prevention and remediation. But we also know that there is a point beyond which we can break the financial backs of our citizens. If the public becomes convinced that mandated programs that are supposed to be good for us are not worth the price, we lose that enormous well of good will that has sustained our environmental clean up programs since the 1970s.

The National Association of Counties' view is that priorities must be set. Congress simply cannot expect local governments to rely entirely on their own limited dollars to solve all of the environmental problems that face us. We think there must be some degree of balancing risk focusing on those areas which need attention the most, then working toward meeting other less critical environmental obligations.

Let me first bring up the State Revolving Loan Funds. Mr. Chairman, without the continuing involvement of the Federal Government in providing and expanding funding for construction of municipal waste water treatment facilities, it is clear that we will not accomplish the objectives of the Act.

While NACO recognizes the need to balance the Federal budget and reduce the deficit, we on the local level feel that we have done our fair share and then some. NACO calls upon Congress to maintain the SRF and to reauthorize the program at an amount no less than three billion dollars per year for its implementation. We also favor changes in the program that will allow the States' flexibility to meet the needs of smaller communities. Improvements in the administration of the SRF programs, as we suggest in our written comments, will increase the chances that smaller governments will be able to obtain a SRF loan and begin to provide some equity to the system.

There will always be some types of communities in which the SRF will simply not adequately to the task of addressing our serious water quality construction needs. NACO supports the concept of giving the States more flexibility to serve the needs of these communities and to consider a set-aside or separate program for special circumstances.

We also recognize that a dedicated source of Federal revenues is critical to water quality improvement. NACO will be examining a

number of proposals, and we will be happy to provide the committee with our position when it is finalized.

NACO supported the revision of the 1989 wetlands manual because we believe it would result in a less costly wetland enforcement policy. We still feel that changes are needed in the following areas:

Designating a lead agency; a definition of wetlands in unique settings, and a distinction between historical natural wetlands and artificially created wetlands.

Finally, Mr. Chairman and the committee, NACO agrees in concept that watershed-based management provides a number of benefits in developing a comprehensive approach to environmental protection. Our steering committee will be reviewing in some detail the various proposals being put forth and will ultimately develop our position. We would like to request the opportunity to submit our recommendations to you when they have been approved formally by the NACO board of directors.

We want to bring to your attention, however, two points that we hope that you will keep in mind in the discussion:

First is the issue of land control by local governments. While we agree that sometimes there must be restrictions on the use of private property for environmental protection, we want to be intimately involved in developing those restrictions because we will certainly be blamed for them.

Second, we are concerned that county boundary lines and elected county officials might be disregarded in organizing watershed decisionmaking agencies or committees. Local decisionmaking is the key stone of NACO's philosophy, and we hope that any specific proposals on watershed management will have a strong local government component.

Thank you, Mr. Chairman and the committee for the opportunity to address you this morning.

Mr. APPLGATE. Thank you.

Mr. Barnes.

Mayor BARNES. Thank you very much, Mr. Chairman.

Mr. Chairman and members of the subcommittee, I am Thomas Barnes, Mayor of the City of Gary, Indiana, here today on behalf of the U.S. Conference of Mayors.

I certainly want to thank you for this opportunity to present our views. I thank you also for the House passage of the president's economic stimulus package. Its funding of environmental initiatives will certainly help our cities.

The subcommittee faces some great challenges in reauthorization of the Clean Water Act, and we pledge to work closely with you at every step of the process. Let me just share some highlights or some key areas of concern that the Nation's Mayors have as you move ahead:

For cities, the Clean Water Act is expensive. We're doing all that we can with higher water and sewer rates, fees, State, and local contributions and the like. We badly need the Federal Government to step up to the plate and help us meet these costs.

We strongly support the President's proposal to continue the State Revolving Fund Program and urge its reauthorization at two billion per year or more. This certainly will not meet all of the

waste water treatment needs identified by EPA and others, but we must at least meet this base line if we are not to fall further behind in meeting these needs.

We hope you will also consider a partial return to direct grant funding. There has been some discussion of a national user fee for clean water purposes, perhaps levied on those most responsible for polluting our waters. While the U.S. Conference of Mayors has no specific policy on user fees for clean water purposes, if they are to be instituted the receipts should be deposited in a trust fund and made available directly, I repeat, directly to localities in the form of grants that they apply for at EPA.

When viewed broadly, the State Revolving Fund Program has accomplished its objectives. But it is still very difficult for individual localities to use it in a fast and flexible manner to meet clean water needs. Grants will help.

Mr. Chairman and members, I certainly must point out that I represent the view of Mayors across this Nation when we say that we do not come here simply with our hands out. At this very moment in my own city of Gary, despite the economic devastation that we've suffered over the last couple of decades, we've just passed a thirty million dollar bond issue to enable us to meet some of the critical needs we face in meeting Clean Water requirements.

In addition, of course, we've had a fifteen million dollar loan from the State Revolving Fund in order to provide sewers to one of the areas in our city that has not had sewers throughout its entire history.

As we move ahead, we need the help of this subcommittee to create a new ethic and approach in EPA built on a principle that there be no costly regulation unless absolutely necessary, and then that it be implemented at the minimum level necessary to achieve realistic standards. Above all, we oppose additional mandates without accompanying funding.

Perhaps if we could just keynote this point, we would simply say that the end purpose of EPA should be to get the crud out of the water, not to impose punitive sanctions which divert scarce local resources from meeting this basic goal.

With respect to the concept of Comprehensive Watershed Management, we strongly support the subcommittee's efforts to develop an overall approach to pollution prevention by focusing on a comprehensive watershed-based approach. Federal funding and standard setting for water quality improvements based on sound science can be combined with local and regional responsibility for developing and implementing watershed management strategies.

In addition to SRF funds, the reauthorizing process and subsequent appropriation should provide steady, adequate, and reliable funding support for local watershed management planning and implementation.

On the issue of Combined Sewer Overflows, we recognize that the CSO problem is difficult and cannot be solved without a significant commitment of Federal funding support to assist local communities in meeting the need for minimization and mitigation of CSO incidents.

The Conference of Mayors supports the ongoing efforts of many cities and many other groups represented at these hearings to de-

velop a consensus for CSO control and mitigation. Local flexibility in meeting these standards must be promoted and encouraged to facilitate the development of cost effective local approaches to overall CSO improvements.

Often when I speak of my own city of Gary, I know that in spite of the severe economic dislocation that I suggested earlier, we continue to be blessed with one of the world's great resources, Lake Michigan.

EPA is expected soon to publish lengthy and complex guidance for the Great Lakes Water Quality Initiative, to continue the significant and ongoing progress which has been made in improving and protecting water quality in the Great Lakes. We know that capital-intensive project requirements cannot, I repeat, cannot substitute for scientifically sound water quality criteria and a comprehensive approach to pollution control and mitigation.

We ask EPA to work with Mayors in the region and this subcommittee for a workable Great Lakes approach.

Finally, Mr. Chairman, too often cities and other local governments are seen by EPA as part of "the regulated community," and not as full professional participants in achieving the environmental progress we all seek to assure. I am hopeful that by developing and implementing such initiatives as the watershed management approach to water quality protection that we can put into practice the kind of partnership that is necessary to assure further progress.

Again, regulation should have one goal: get the crud out of the water. We all should share that goal. And while we're working in our case to improve EPA's record of working with Mayors, it is not, we recognize, at this point the best that it can be. It can be better.

In connection with this, I want to take this opportunity to ask this subcommittee to consider authorizing EPA to create models for "local environmental management action programs" to demonstrate ways in which EPA and cities can work together to solve problems. We need EPA's technical assistance, we need their expertise, and funding—not just the regulatory enforcement schemes they have focused on too often over the years. Please help us in that regard during this reauthorization process.

Mr. Chairman, in summary I would like to again thank you for efforts to date. We urge that a better funded and more flexible program be the hallmark of the Clean Water Act in the future. We must get a handle on the regulatory process to make it more sensible and the goals of the Act more achievable, and EPA must work better with cities in the period ahead.

I know that this subcommittee is committed to that goal, as is the President and the EPA Administrator, and we look forward to working with them and with you to achieve these goals.

Thank you very much for this opportunity, Mr. Chairman and members of this subcommittee.

Mr. APPLEGATE. Gentlemen, thank you very much for your testimony, and I think we're all very sensitive to the problems that are facing the smaller communities and for the need to meet the Federal mandates, not only in waste water treatment needs but so many other areas that the Federal Government has mandated upon smaller communities or any size community back home.

I have a question here that I guess is best addressed to Mr. Madden but either can answer.

I want to know for the certain smaller rural communities, do you think that either zero interest loans or principal subsidies can address the needs and—there may be an obvious answer to this—but are there certain communities which need grants for a hundred percent of the cost?

Mr. MADDEN. Well, Mr. Chairman, you are right when you answered the question yourself. The zero interest loans always sound better but we know in the real world that something has to be paid back to those sources once the State gets the money from the Federal government.

The grant issue, for instance, we have a small community in Greene County, Ohio, by the name of Clifton, and it borders both Greene County as well as Clark County and Springfield. The problem there is the village is built on solid rock, and there's only six to twelve inches of sandy loam and dirt on top of the rock. The sixty some residents of this area being in the lower income brackets, are unable to afford the sewer system that EPA has now put the findings and orders in effect for.

And the loans with interest rates—some at two percent, some at four—it's still a hardship because every property owner now is going to have to come up with at least two to four thousand dollars or a monthly expense of forty five to sixty five dollars.

Mr. APPLEGATE. What kind of a cost is that?

Mr. MADDEN. It's about—the whole project is about two and a half million dollars. And if this is just for sixty four residents, it's very, very expensive.

Now this is a vacuum system; it's not a conventional system. So here again the innovative systems work. It will not be built upon or added on for economic development purposes in this small community, but we need that grant or we need those low interest loans. And, of course, a zero interest loan would be most beneficial but a grant, which we did have before in our county as we were under findings and orders, could cut that monthly payment down to our citizens.

Mr. APPLEGATE. What about the principal subsidies approach?

Mr. MADDEN. Pardon?

Mr. APPLEGATE. Principal subsidies, that was brought up yesterday from Ms. Aggras from the State of New York in establishing a kind of technical assistance program—and I don't think she talked so much as construction grants but mostly in technical assistance and that type of thing—with the interest earned from monies that would be earned by the State Revolving Fund and they could be utilized back to small economically distressed communities.

You're not familiar with that?

Mayor BARNES. Would that be basically a system which acts as the principal as well. In other words in the form of a grant? Is that essentially what that—

Mr. BOEHLERT. Mr. Chairman, may I intervene here just a second?

Mr. APPLEGATE. Yes.

Mr. BOEHLERT. Just a point of clarification, the New York plan or the principal subsidy plan, does call for construction financing too.

Mr. APPELGATE. Oh, it does.

Mr. BOEHLERT. In essence, what it does is recognize that there are some communities so hard pressed that even a zero interest loan is not enough to make it go. The theory is that an outright grant is not the best utilization of the resources because everybody will stand in line for the grant and won't go for the other program.

So on an ability to pay, and there would be some objective way to analyze this, a community might have a no interest loan plus have some of its principal payment subsidized depending on the ability to pay. That's what it amounts to.

Mr. APPELGATE. Yes, that's what it is.

I didn't know that New York had the money in for construction grants, which would be all right. But, of course, they have the ability to generate more money through the interest.

How much of a State Revolving Fund does Indiana, Ohio have?

Mr. MADDEN. There's not too much left, and with the economic stimulus plan that I believe that's over in the Senate right now being debated, the non-entitlement part of the Community Development Block Grants can also aid in a grant to those communities that need the funding too. Now that could apply to the grant, but we at the local level need those CDBGs.

Mayor BARNES. If I might add, Mr. Chairman, as well on that same issue—I think we've just about drained the State's SRF funds with a bit more than fourteen million dollars that we finally obtained this year; we've been working on that for about three and a half years—but if we think about the importance of having either grant funds or zero interest loans—just think of this scenario for a second:

We start with an area that has been economically devastated such as Gary, Indiana, and certainly some other urban areas in the Nation, then we come this year with the State Board of Tax Commissioners after we've completed our budget who indicate that we have to cut five million dollars from a bare bones budget. And then we come into this year with a crisis in the city where we have an environmental fire that rages out of control and requires a tremendous amount of added resources that we have to deal with that are not budgeted in any way.

And also each day, each day, threatened with the potential of one of our garbage trucks going down an alley and perhaps causing a cave-in on sewers that are seventy or eighty years old, and so it makes it obvious that in this whole area here practically every cost that we run into are costs that are not budgeted. And, quite frankly, it's impossible for us to budget them because we simply do not have the dollars.

Mr. APPELGATE. I have just a little bit of information here that Ohio's revolving fund is somewhere in the neighborhood of about five hundred million dollars, and if that was loaned out at an interest rate of three percent, it could generate some fifteen million dollars that could be utilized towards principal subsidies—not a great deal of money. Some areas for large, large amounts, which would generate a lot.

The only concern that I have with just relying on something like that is the smaller—and I pointed out yesterday—like West Virginia who has maybe an inordinate share of needs for waste water treatment facilities and yet they don't have much money in their fund.

But that's what we understand Ohio's is, and it would help. There's probably no question about that. I don't know what it would do to the integrity of the loan over the long period. It would probably deplete, but at least it could extend it out and help.

Let me—Mr. Madden, you make a point that watershed planning involves land use decision, which you feel is best handled by local governments.

Mr. MADDEN. That's correct.

Mr. APPLGATE. Do you think that the primary responsibility should be at the local level or do you think that it should be a local-State program to address that? And then you're on the Indiana border, are you not?

Mr. MADDEN. Yes, I'm close to the Indiana border.

Mr. APPLGATE. And how would you address interstate watershed?

Mr. MADDEN. Well, here again, it's a problem but it could be solved by the locals getting together in that regional planning effort.

If the locals can form a district, if it would be of most benefit, that should be the local option. And if it does happen to cross over to that great State of Indiana, I'm sure that that district can work together with the soil and water conservation districts of both States and work together on their proper agreements.

But, again, let me emphasize I think the important part of this is that the local government makes the decision.

Mr. APPLGATE. Okay, and just one question primarily for Mr. Barnes, I guess, and it sort of addresses what Mr. Boehlert was referring to.

We both expressed the need for some kind of a grant assistance program to help small and poor communities to meet their needs, and some of the witnesses, however, suggested that if there were grants, it's likely that many communities wouldn't do anything except wait for the grant but that with limited resources, it might never happen. And, of course, they also discuss the possibility that there might be a tendency to gold plate the projects where there were grants rather than the repayment of the loans.

What do you think about that? How do you respond to that? What can we do to circumvent the—

Mayor BARNES. I think it's like anything else, Mr. Chairman, committee members.

Obviously, there's always the risk of some taking advantage of programs whether it be grants, whether it be loans, or otherwise. But I do think we have to recognize that our local communities, governmental communities, have truly kept the faith, quite frankly, during some very, very difficult times. And it seems to me, as I've indicated earlier, when we've come here, we've not simply suggested to provide us with dollars. We put our own dollars out there, and in most instances, quite frankly, we are the bigger partner in

bearing the burden outside, of course, of the initial construction, say, of our sanitary district treatment plant.

The bigger part of that burden on an ongoing basis has been the contribution by our local governments, and, quite frankly, we are getting smarter where we recognize that we have very little to work with and we're not really looking to the Federal Government to carry programs any longer. That's something we've just about given up on, but what we do look for is a Federal Government in a sense to pinch hit with us sometimes, more or less to just give us that little added degree of help that we need in order to make something work. And that's really I think all that we're asking for now. We're not asking for the big part of it. We're asking you to supplement us so that we can make these things really work.

Mr. APPEGATE. I think the point is that most people representing local governments have made, of course, is that there just isn't any way that they can do this by themselves. The enormity of the cost staggers the imagination. When you're talking about the situation with the small community in Greene County, for sixty some odd people, you're talking two and a half million dollars. It just staggers the mind.

Gary, Indiana is what, a hundred and forty, fifty thousand?

Mayor BARNES. About a hundred twenty thousand.

Mr. APPEGATE. A hundred and twenty thousand?

Mayor BARNES. That's correct.

Mr. APPEGATE. Well, I guess it was a hundred and fifty at one time.

Mayor BARNES. Well, at one time we were a hundred and eighty five thousand.

Mr. APPEGATE. A hundred and eighty five thousand?

Mayor BARNES. That's right, in the 1970s.

Mr. APPEGATE. Well, I know what that is because my town used to be once 140,000 in Steubenville and it's now 22,000. And we've lost a lot of our industries, and we're much like Gary because we have a lot of steel and we have a lot of unemployment. Had the people stayed around, the unemployment percentages would be staggering. But they've moved on and the unemployment figures are still staggering, and the inability of people on the local level to be able to pay these enormous costs is very difficult. And I'm sure that Gary, Indiana is no different and may be even—probably worse than what it is in my small community, and you probably have an aging community because your young people are moving.

Mayor BARNES. That's right, and that's one of the critical problems that we're facing. It's kind of like a catch-22. We want to keep our young people there, we need those brains, we need that talent, we need that energy. And, yet, at the same time, we're not able to offer them the kind of opportunities that we had when we were coming up in our communities.

Mr. APPEGATE. Yes, it's difficult to keep those young people around with the promises that something might get better, and that's where you're real earning power is going to be, and that's how we're going to build back up hopefully one day in Gary, and in Greene County, and in Jefferson County, and many of the other counties throughout the United States.

Well, I thank you for your testimony. Your statements will be made a part of the record, your full statements, and we perhaps will be submitting questions to you and hope that you would answer those as quickly as possible.

Mr. Boehlert.

Mr. BOEHLERT. Thank you, Mr. Chairman.

First of all, Mr. Mayor and Mr. County Commissioner, I want you to know that I'm one of you. I'm a former county executive, so I'm very much aware of the problems facing local governments. You get the mandates without the money, and I want to compliment both of your organizations, the Conference of Mayors and NACO, for being modest in your request here. The county executives are a little more ambitious. You're asking for three billion; the mayors, only two billion. We're going to have requests for a lot more.

I would urge both of you to think in terms of reporting back to your organizations about this principal subsidy approach. That's something that I find rather appealing at this stage, and I want to work with your respective organizations to sort of flesh it out to see if it will best serve your needs because the chairman and I both agree that there are communities out across America that have real difficulty coming up with any repayment program. So we'll work with NACO and the Conference of Mayors.

The other thing I want to say is, where were you when I needed you last year? Last year I tried very hard to convince the Congress that we should re-institute general revenue sharing. Mr. Mayor and Mr. County Commissioner, you would have enjoyed that immensely if you had of, and both of your organizations were disappointing in that regard, so report that back too because they both had visions of sugar plums and wanted a greatly expanded program costing three times what we ever had spent before in the history of this body on general revenue sharing.

I just want to modestly—maybe that's my Republicanism showing—re-institute the program at the level it was when it was cast aside.

Having said all of the above, now let me get to you, Mr. Madden, if I may. You know, one of the problems identified with this whole issue is the need for adequate planning and design and construction expertise, and often times at the small local government level you don't have that expertise.

Where is it best addressed? Is it at the county level or should you go to the State level, or should the Federal level be involved in it?

Mr. MADDEN. No, it should be the county level. We in county governments across our country have the expertise as far as supervision in the engineering or the ability to get contracts, to get consultation, and I think it's we at the county level.

Mr. BOEHLERT. How big is your county?

Mr. MADDEN. Our county is 140,000 in population.

Mr. BOEHLERT. And you have a single county planning department?

Mr. MADDEN. We have a regional planning within that county and then we're a part of the Dayton, Ohio effort of Miami Valley regional planning.

Mr. BOEHLERT. Well, because a county of 140,000 really couldn't afford on its own to have a comprehensive planning operation.

Mr. MADDEN. Well, we do quite well.

Mr. BOEHLERT. But, no, really it's just exclusively for the county without a multi-county effort?

Mr. MADDEN. Well, we do our regional planning right within the county as well as most of other counties in southwest Ohio do.

Mr. BOEHLERT. Well, who came up with that figure for two and a half million dollars for that community—

Mr. MADDEN. Well, let me—

Mr. BOEHLERT. According to my math—

Mr. MADDEN. It's easy—I was adding on two other things because of the Little Miami River going through the area with—sooner or later, we're going to have to put water in there also because they're on private wells. The figure right now for the sewer system is \$300,000. And then the total clean up of the Little Miami River with public water, public sewer—and we don't know how we're going to do a water treatment plant into the area—but with the whole Little Miami River well above two and a half million dollars.

But the sewer system that's been under the findings and orders right now is two hundred and fifty to three hundred thousand dollars.

Mr. BOEHLERT. Okay, because that's a big difference. When you said two and a half million, I almost went through the ceiling.

Mr. MADDEN. Well, it's easy when you get to Washington here for a little kid from Greene County, we just—you know, we get the decimal in the wrong place.

Mr. BOEHLERT. Well, I guess we should just turn off the lights and turn the key in the door and give everybody forty thousand dollars instead of doing it—you know.

Mr. MADDEN. Well, you know, somebody said it be easier just to move the city, but the village has been there for two hundred years.

Mr. BOEHLERT. Here's the point I'm getting at:

I am concerned as a former country executive, and I know the plight you face, I'm concerned that a lot of small communities in desperation don't have the expertise they need; they reach out for some expert and the expert is anyone who lives fifty miles away or farther, and that expert comes in and says to a community that we've got this plan for you and here's what you've got to do to solve the problem. It's going to cost you two and a half million dollars.

I mean, it's not so far-fetched to think that that might happen for a community of sixty four. That comes out to \$40,000 per person. I mean, you just close the town and walk away on a deal like that.

Where do we get the expert planning? I mean, you have to be hard pressed at the local level. I don't know how a county of 140,000 can maintain that expertise. I really don't.

Mr. MADDEN. Well, basically, some of that expertise has come from community development block grants through the health department to get their expertise. And then, of course, EPA was notified and the findings and orders come down.

And, Mr. Chairman, you addressed that what happens that we should wait for these grant programs. Well, there's no waiting when you're under findings and orders. In local government, there's no waiting when that phone call comes in that I don't have water

to shower and to bathe or to drink, or the septic systems are failing and it's neighbor against neighbor because of the stench.

Mr. BOEHLERT. Mr. Mayor, what do you do in Gary? You have your own planning department within the city?

Mayor BARNES. We have our own planning department, but in addition, of course, there's a regional planning department. Two of the counties combined under the Northern Indiana Regional Planning Commission.

Mr. BOEHLERT. So are you with the—Gary, obviously, is within a county?

Mayor BARNES. That's correct.

Mr. BOEHLERT. Now you have the Gary City Planning Department and then the county would have a planning operation that's part of that regional effort?

Mayor BARNES. Yes, that's correct. And they are two separate, planning departments. But, in addition for many of the major developments there's a regional planning department that combines two counties. Lake County, with Gary as the largest city, has approximately 480,000 people.

But just to mention just a little bit further, on the issue of how we plan or where we get the resources, it is important for at least a couple of reasons that they really be looked at in many of these areas in a partnership fashion because many of the problems—if you think about just the issue we've talked about, the watershed issue—this is something that in my own city and in others is affected by jurisdictions not only intracounty or intrastate, but also intercounty and interstate. And so, consequently, it's important for us to recognize that those that are being affected in any way, and certainly if they're going to be required to come up with some resources, they're going to want to have some input in terms of the planning and showing that the impact on them is going to be one that is equitable.

Mr. BOEHLERT. Thank you both very much. You both have difficult jobs in government. You're right on the firing line, and I just want you to know that we want to be helpful.

Thank you.

Mr. MADDEN. Thank you.

Mayor BARNES. Thank you.

Mr. APPLGATE. Thank you, Mr. Boehlert.

Mr. Poshard.

Mr. POSHARD. Thank you, Mr. Chairman.

Mr. Madden, I noted that in your testimony, you discussed a problem that's unique to the rural areas with regard to the use of the SRF money, and that is purchasing land and right of way for the sewers or water lines that need to be laid. That's a critical problem for rural counties. It is where I live.

Should we loosen up those guidelines, cut out some of those restrictions and allow some of those rural areas to use those monies for that purpose?

Mr. MADDEN. I would think so. I'd be in full support of that.

Mr. POSHARD. Have you found it to be a problem where you live?

Mr. MADDEN. Well, it's not—basically the right of way purchase has been going along. We have two or three areas of findings and orders within our county right now; one an area of 700 residents

that were under findings and orders to put a sewer system in. We're just to the right of way part of that program. With construction, we hope to begin next year.

We do need some help, and we don't need any more restrictions. With wetlands, with other things that are involved, and to protect our area, which is the number one product of the industry's agriculture.

Mr. POSHARD. I know in some instances where I live, the purchase of the land and the right of way is more expensive than the construction itself because it is an agriculture area. That poses a great problem when they can't use those monies for that purpose.

Mr. MADDEN. Well, one of the things that we've been using in our county is the Rails to Trails Program in any right of ways. We've been trying to get these things purchased up with the Intermodal Surface Transportation Efficiency Act. We've been available to get funds to try to look ahead for these problems that are sure to come because basically, as one person said in Ohio, there's no private well that is a hundred percent safe. And that's scary when we come to the State of Ohio when we think of—and our source of water for drinking is underground. There's no natural lakes in the State of Ohio, minus Lake Erie, which we share.

Mr. POSHARD. I see.

Mr. Mayor, I noted that you referred to the possibility of a user fee on polluters and that probably ought to go into a trust fund from which people who needed that money could use it for specific purposes.

Have the mayors endorsed that as a policy?

Mayor BARNES. That has not been endorsed as a policy. It's certainly something that has been recognized as a potential option, but it is not one that the Mayors have endorsed as a policy.

But, as you indicated, the key thing is this:

If in fact this committee is going to recommend such a fee or if this is an area that is going to be looked at seriously, then it must be one that ensures that those dollars are going to be dedicated to a trust fund so that they can in fact assist us, where the rubber indeed meets the road, in terms of dealing with some of these problems of improving the water quality.

Mr. POSHARD. So that you have some accountability in tracking that money and getting back to the purpose for which it is designed.

Mayor BARNES. Absolutely, that's essential.

Mr. POSHARD. Well, let me ask you this, and it's been touched upon by the previous speakers. Maybe both of you would want to comment.

I represent a large rural area, twenty seven counties in my district, and the truth is—whether we want to admit it or not—every time we attempt to economize or to become more cost-effective and efficient in our operation through a regional cooperative effort—be it in health care provision, or law enforcement, or whatever it is—the counties and the local governments get parochial as heck. They do; I mean, these people are very independent, everything stops at the county line, you're not going to take an ambulance over the border, you're not going to run my sheriff to the next county to de-

liver a person at some regional jail even though it might save the taxpayers five millions bucks.

I mean, what are your organizations doing to help us break down this territorialism and this very parochial attitude that really cost the taxpayers of this country billions of dollars and less efficiency at all levels of government. And there are imaginary political boundaries which divide us for no other reason than protection of turf.

What can we do about that?

Mayor BARNES. I don't know why you're locking at me. [Laughter.]

Mr. MADDEN. It's simple. All you do is look at the problem, get the committees in line. Somebody has to be the lead agent, somebody has to take charge in that region, and the situation that we did between Greene County and Clark County—not because the larger numbers of residents were on the Greene County side, because water flows from Clark to Greene, we just sat down and said, okay, somebody has got to be the lead agent. And it was us, and we decided it out, and then we kept them informed.

We've done this with economic development in our area—between Montgomery County and Dayton, Ohio with road construction. Somebody has to be the lead agent, and you've got to start solving these problems on a regional area.

We're doing it in the Miami Valley area of Ohio.

Mr. POSHARD. Well, then you're to be commended. I don't know that that's the rule throughout the country, however.

Mr. Mayor, you started to say something.

Mayor BARNES. Yes, I think we have to recognize, first of all, that it's going to take maybe a generation beyond the one that we're operating in where we get rid of all the parochial considerations. But I do think we need to look at those instances where we have had intercommunity cooperation.

There are some difficulties. I can assure you of that. The reason I thought about it when you raised that issue, I wondered whether you were reading my mind because we are grappling with some of those issues in our community right now. I can point to some areas where it's almost like pulling good teeth. I can also point to some real successes that we have had, such as the Lake Michigan Marine Development Commission, which is a combination of some six cities that are right along Lake Michigan where we have been able to do things even where limited dollars—where one community said, okay, you have progressed to a certain point on your marina development; we'll lend you some dollars in order to help you and you help us, you know, when we get at that point.

So there are some successes we can point to, and perhaps we need to just look at it and say what are those ingredients that lead toward success. But above all, it has to be something where the communities can sit down—or the communities of interest can sit down—take a look and determine are there is some common interest that are more important than our parochial interests. And in most instances, I think you'll find them.

But you're absolutely correct. It is a very difficult problem.

Mr. POSHARD. But local leadership is the key, not Federal to beat us over the head—

Mr. MADDEN. That's right.

Mayor BARNES. Absolutely.

Mr. MADDEN. Everybody wants clean air, everybody wants clean water, and both air and water know no boundaries.

Mr. POSHARD. Sir, thank you very much.

Thank you, Mr. Chairman.

Mr. APPLGATE. Thank you, Mr. Poshard.

Mr. Hoekstra.

Mr. HOEKSTRA. Thank you.

I found some of the testimony fairly interesting.

Mr. Madden, could you elaborate a little bit more in terms of rethinking the goals, as you identified or as they're identified, of fishable and swimmable waters. I'd like to know why you said that maybe the goal should be rethought.

Could you identify perhaps some alternative objectives?

Mr. MADDEN. Well, there's some areas in the local government that—for instance, the exhaust areas of the placing back into the waters from waste water treatment plant, the temperature areas, and stuff like this, with the rules and regulations that are in effect, some of those areas might not be fishable or swimmable. There are some shipping lanes that connect large cities across our country, canal areas, and river way areas that probably—there's no amount of money that can be available to get it back to the pristine situation that it once was. Maybe those areas should be monitored, but at the same time, they are probably irreparable and maybe can be sealed and corralled to an extent that it won't damage any of the waters of any other area.

Mr. HOEKSTRA. Building on that, you also talk about the potential loss of the public good will and public support for the objectives of the bill.

Do you have any personal experiences where mandates have come down to the local level and where you take a look at the mandates? Have people at the local level said, where did these come from and these just don't really compute so that we are in fact losing that goodwill?

Mr. MADDEN. Well, I think one of the problems that we had in our area, we were under findings and orders back in 1986 to provide sewer for a moderate income group area of about 3,200 users, and we did at that time get a small grant that was still available. It helped in the process of approximately \$4.2 million, and we began construction.

Then EPA told us to stop because of ground water pollution from a manufacturing plant, which is a very large employer in our county, and we're still under litigation with this.

But the additional amount of money to put a sixty-inch sewer in this area has resulted from \$700,000 as planned through this one area, has gone as high now as \$5.6 million, which is double what the original project was.

So the mandate to do something, we obliged and completed that mandate but the goodwill now is being disturbed because of the industry and the polluter must pay. If the polluter must pay, we're going to lose a very large employer.

Mr. HOEKSTRA. Thank you. That's all the questions I have.

Mr. APPLGATE. Thank you, Mr. Hoekstra.

Mr. Nadler.

Mr. NADLER. Thank you, Mr. Chairman.

Mayor Barnes, you say that Federal funding and standard setting for water quality improvements based on sound science can be combined with local and regional responsibility for developing and implementing watershed management strategies appropriate to local conditions and letting the local people develop the programs to do this.

Am I correct in assuming that what you're really saying is that the Federal Government should set a standard and allow wide discretion to local authorities to propose or to come up with the strategies for meeting that standard?

Mayor BARNES. I think it's essential that the Federal government be a very active and perhaps even a lead partner in terms of setting the standards. But it has to be in collaboration with these communities where the problems are and, quite frankly, are in a better position in terms of implementing whatever determinations are being made. They should be a part, in other words, but again it shouldn't be with the notion of laying down a rule that has no sensitivity to what some of the problems that are in these communities.

Mr. NADLER. Let me ask you the following:

In New York we've had a situation with the Clean Air Act, where New York has been out of compliance for over twenty years. State and local government have, in my judgment at least, made no good faith efforts to achieve air quality standards. They've missed deadline after deadline for submitting State Implementation Plans. When the State Implementation Plans have finally been submitted, the State and local governments have made no effort to do what they said they were going to do, and every time you're talking about sanctions, the sanctions are so horrible that the Federal Government always shrinks from imposing them. We're about to see that again in New York.

What should the Federal Government do? If the Federal Government is going to simply work with States and cities in setting reasonable standards and let the local governments come up with strategies for meeting those standards, where they don't meet those standards, where they don't achieve what they promised they're going to achieve, where they don't make a real effort to implement what they say they're going to implement, what should the Federal Government do to enforce the standards?

Mayor BARNES. I think—and, of course, my community like many are facing sanctions of one type or another dealing with various environmental issues—but I think it's extremely important, and I said this when I sat in a chamber with EPA, with the U.S. Attorney, and with the judge just two years ago, when I had come into office and a consent decree had been signed by my predecessor that, quite frankly we were in a position where it was not one that we could live with. And it was very obvious at that particular time that the total posture of EPA had really gotten away from the notion of getting the water clean; that totally had been eliminated.

And so I simply suggested to the court at that time, I said the same thing I mentioned here: we recognize that if you are not meeting the obligations that you've agreed to that are in the law,

then someone is going to have to pay for that. And if you're the one who is at the bottom line of that, then you are the one who should pay.

But above all, it shouldn't take on the notion of being punitive, for punishment's sake alone. It should be geared toward getting the water clean, and as long as we keep that focus and our objective for the existence of EPA or any other regulatory agency, this is why we're in existence. We're not in existence to collect dollars in fines or to put onerous demands on communities. We're there in order to make sure the water gets clean in this instance. And if that's not being met and we set time limitations on it, then certainly while reasonable people still can disagree, at some point the buck has to stop and someone has to pay. And we're prepared for that.

Mr. NADLER. But my question is—again, I'm speaking from local experience as a State government official until very recently. The experience in New York has been that nothing happens, that State and local governments miss every deadline, never attain it, and the Federal Government shrinks back from imposing standards because the standards—from imposing sanctions because the sanctions are too punitive and would just reek havoc on the local economy and granted someone has to pay.

My question is could you suggest any way in which you could have some realistic enforcement strategy in the bill?

Mayor BARNES. Well, I'm not sure what some of those options might be, but again I might reiterate that we've not been as fortunate in my community because we are paying right now. We are paying—and, of course, we also are moving realistic toward meeting some goals as in the example that I alluded to earlier—where we have in our city one of the largest areas in the entire State population-wise, where individuals have never had sanitary sewers, have never been hooked up for treatment. And, yet, this demand that you must do something about it, or there's a sewage that's overflowing and what have you, and what are you doing about it, City of Gary, well, finally what we've had to do after trying to get the dollars from everywhere, we finally were able under the State Revolving Fund loan to get \$14 million after three and a half years, to get those dollars from the State.

Now, obviously, those are dollars that we pay back. I've never felt really that that should have been entirely a responsibility of the city, but we've reached out to meet a need of our people because that need was not being met by anyone else. But I fully agree with you that there are some instances where, you know, you have to set the limit, and obviously you have to pay if you don't meet it.

Mr. NADLER. Thank you.

Mr. APPLGATE. Mr. Horn.

Mr. HORN. Thank you, Mr. Chairman.

Mayor Barnes, Commissioner Madden, I've enjoyed your testimony. Success stories have been mentioned. You cited one, Mayor Barnes, in your own area.

What I'm interested in is from a national perspective since you have an opportunity periodically to chat with your colleagues who are city executives, county executives, around the country, which

State do you feel—either in the wetlands area, sewers area—has the best State-county-city relationship in addressing these problems? Are there two or three we can put at the top of the list?

Mayor BARNES. I'm not sure that I can say from my own experience any particular area that we've had greater success, you know, in terms of interrelationship.

Certainly, there have been in all of those areas—we've had to communicate with and ask the support of our county planning agency or the regional planning agency, and there's been a very cooperative approach in terms of providing information or providing technical assistance.

I think the areas where we really begin to get into problems sometimes and this whole issue of parochialism comes in is when you wind up having some resources in the pot and then you have these issues of who's going to control it; you know, the realistic political kinds of problems that we do face.

But where in those instances we've sat down and said, okay, let's take a look at it now; Gary has some interest that it wants to protect, and Hammond or the other communities have some interest they want to protect, now here's a common interest that all of us can agree on and so let's pursue it.

So I think that in any of these areas they offer opportunities for collaboration and for partnership and for supportive relationships, but I think they have to be looked at individually, quite frankly, and I don't know of any one that offers any greater opportunity.

Mr. HORN. Okay, Commissioner Madden.

Mr. MADDEN. Well, you know I'm going to say with the chairman up here that the great State of Ohio is a leader in communication on some of these items. But I think the States of Washington, Wisconsin, Minnesota, and Florida have addressed these concerns especially with their lakes, and rivers, and streams, and wetlands issues. Those are the leading States I would put there as models.

Mr. HORN. Now the reason for their success is what, gubernatorial leadership, cooperation at all levels that sort of exist in other areas? What's the model of that?

Mr. MADDEN. Well, I think one of the main models, especially for the State of Florida, would be because of the development of the mass population growth and the need to provide for the public drinking water, safe drinking water, as well as the sanitary sewer systems of that State.

Most of it is local government and the economic development that drives those areas of population. And the States of Wisconsin and Minnesota, they've always been leaders in the environmental issues of our country.

Mr. HORN. Thank you very much.

Thank you, Mr. Chairman.

Mr. APPLGATE. Thank you.

Ms. Molinari.

Ms. MOLINARI. No questions, Mr. Chairman.

Mr. APPLGATE. Just trying to find some more questions for you, that's all. I'm sure you'll be glad to know that Mr. Filner came in. [Laughter.]

Mr. APPLGATE. Mr. Filner, do you have any questions for these gentlemen without knowing what they said? [Laughter.]

Mr. FILNER. I'll pass, Mr. Chairman. Thank you. [Laughter.]

Mr. APPELGATE. Okay.

Well, I thank you very, very much for some very, very expert testimony. You've livened this thing up, you've given us the perspective of your communities, and it will certainly help us in our deliberations. And I thank you very much for being here before the committee.

Mr. MADDEN. Thank you.

Mayor BARNES. Thank you very much.

Mr. APPELGATE. The next panel that we have will be the last panel, but it's a large panel.

We have Ken Kirk with the Association of Metropolitan Sewerage Agencies—you can all come up to the table;

Adrian Freund, American Planning Association;

Anne Dunihue, California Association of Sanitation Agencies;

Scott Tucker, National Association of Flood and Stormwater Management Agencies, and;

Doug Harrison, California Stormwater Quality Task Force.

Ladies and gentlemen, thank you very much for coming before the committee and giving us your perspective on the needs and the testimony from those that you represent.

I believe that we'll—I have first in my folder here Mr. Kirk.

**TESTIMONY OF KENNETH KIRK, EXECUTIVE DIRECTOR, ASSOCIATION OF METROPOLITAN SEWERAGE AGENCIES; ADRIAN P. FREUND, DIRECTOR, DEPARTMENT OF PLANNING & ENVIRONMENTAL MANAGEMENT, LOUISVILLE-JEFFERSON COUNTY, KY, ON BEHALF OF AMERICAN PLANNING ASSOCIATION; ANNE W. DUNIHUE, DIRECTOR, CHINO BASIN MUNICIPAL WATER DISTRICT, ON BEHALF OF CALIFORNIA ASSOCIATION OF SANITATION AGENCIES; SCOTT TUCKER, EXECUTIVE DIRECTOR, URBAN DRAINAGE AND FLOOD CONTROL DISTRICT, DENVER, COLORADO, ON BEHALF OF NATIONAL ASSOCIATION OF FLOOD AND STORMWATER MANAGEMENT AGENCIES; AND DOUG HARRISON, GENERAL MANAGER, FRESNO METROPOLITAN FLOOD CONTROL DISTRICT, ON BEHALF OF CALIFORNIA STORMWATER QUALITY TASK FORCE**

Mr. KIRK. Thank you, Mr. Chairman.

Mr. Chairman and members of the subcommittee, my name is Ken Kirk and I'm the Executive Director of the Association of Metropolitan Sewerage Agencies. I am pleased to be here today to share with you AMSA's perspective on the reauthorization of the Clean Water Act.

I truly regret that our president, Wayne Sylvester, from Orange County, California is unable to be here today as we had planned because it is more important for you to hear from the environmental practitioners in the field than from association staff here in Washington.

First, I'd like to provide a few comments to serve as the basis of our testimony.

AMSA supports the reauthorization of the Clean Water Act and its goal of fishable and swimmable waters. AMSA believes that this reauthorization must use an integrated and comprehensive strat-

egy that establishes new priorities for achieving water quality goals. It must recognize the wide range of conditions present in the Nation's watersheds and provide flexibility to decision makers so that they can address site-specific solutions; it must target point and non-point sources; it must develop mechanisms for control that properly balance environmental gains and their cost-effectiveness; and, it must provide the funding to implement its clean water mandates.

It is important to put the reauthorization of the Clean Water Act into historical perspective. This Nation, its states, cities, and towns, has made enormous progress in the more than twenty years since the passage of the 1972 Clean Water Act. In 1972, national standards that targeted point sources made sense. We had identifiable problems traceable to easily controlled sources. Congress provided funding, necessary deadlines, and enforcement mechanisms. Coupled with a considerable amount of public support and motivation, this set the stage for our Nation to successfully address many of its clean water challenges.

Today we face a totally different situation. While public support for environmental progress and improvement continues, the new and emerging issues we must address are more complex and costly, and fiscal shortfalls at every level of government are unprecedented, which makes dollars harder to get.

In a reauthorized Clean Water Act, we need to reconcile the constraints of the 1990s with our continued high expectations and the need to make continuing progress. This will involve several things, the first of which is an increased Federal financial commitment in partnership with states and local governments.

Attached to my testimony is a report AMSA has published called "The Cost of Clean." Among the key findings of the report are the following:

First, funds totalling over \$23 billion will be required for AMSA member agencies, and I underscore just AMSA member agencies and not all the other communities throughout the country, to meet currently mandated clean water needs to the year 1995. These needs relate to secondary treatment, advanced treatment, collection system projects including stormwater and combined sewer overflow control, and the repair and rehabilitation of facilities, many of which were built in the early years of the clean water program.

Second, and I refer you to the chart at my right, operation and maintenance costs traditionally make up a higher percentage of a local agency's budget than capital costs. As new technologies are applied to meet more stringent requirements, the costs associated with operation and maintenance increase. Based upon past surveys, we can project that O&M expenses will double every eight years with increases between nine percent and eleven percent per year. These costs are paid for totally by local communities.

Third, and again I refer you to the next chart, annual household user fees are now doubling every six years. They are projected to rise at an even greater rate in the future due to increased local funding of capital projects, increased operation and maintenance costs associated with higher levels of treatment, and newly mandated environmental programs.

The issue of increasing user fees heightens political pressures as rate increases impact users, especially those on fixed and limited incomes.

A lot of attention has been focused on the rate situation in Boston, but I can assure you that there are many other communities both large and small that are moving very rapidly in the same direction.

Finally, and I refer you to our last chart, of the noted \$23 billion in AMSA member needs, only eight percent is expected to be financed by Federal assistance. Currently, local governments, through rates and taxes, cover eighty percent or more of the capital burden in addition to one hundred percent of the sharply increasing operation maintenance and replacement costs.

The eleven percent projected State funding includes state revolving loans, which are ultimately repaid with local funds; thus increasing the real burden to local governments to more than ninety percent of the total wastewater capital costs.

This is in sharp contrast to the early days of the program when the combined Federal-State contribution was in the area of ninety percent and the local contribution was about ten.

I believe that we, my colleagues on this panel and the members of this distinguished subcommittee, should work together to keep the Federal feet to the fire. We must not lose sight of the fact that the clean water program is a national program with an integral relationship toward long-term environmental health and economic growth.

Our job and the collective mission and body of the national clean water program is far from done. To meet our future challenges, AMSA believes that an annual funding level of \$6 billion is warranted and that this money should be disbursed as both loans and grants.

As Jim Howard, the former chairman of this distinguished committee used to say, "This is one program you could throw money at and get results."

Mr. Chairman and members of the subcommittee, the grants program worked and much of the progress we now point to over the past twenty years is directly attributable to its earlier existence.

In 1987 we transitioned from grants to loans as a means to limit and eventually terminate the Federal financial commitment to the clean water program—not because the grants program didn't work. As you now begin the clean water reauthorization process, we encourage you to re-evaluate whether existing financial delivery systems are sufficient to meet the current and emerging needs of the Nation and our cities.

As I said earlier, we believe that both loans and grants are necessary to make continued clean water progress, and point to several States including Washington and Connecticut that are already successfully employing both loans and grants to assist their communities in meeting Federal clean water mandates.

The next step in reconciling constraints with expectations is for all of us to refocus our concerns and priorities. We need to resist the temptation to set unrealistic deadlines and prescriptive national solutions to local problems. We also need to resist the temptation to fix programs that aren't broken.

It's a tall task and we're very aware that many come before you with problems and complaints but no solutions. But along with our request and recommendations, we are also prepared to offer a solution.

With our testimony, we have provided you with a copy of proposed legislation that we have drafted titled "The Comprehensive Watershed Management Act Of 1993." The vision contained in The Comprehensive Watershed Management Act Of 1993 calls for the development of comprehensive watershed management plans with the participation of all point sources, non-point sources, users of the watershed, citizens, and levels of government.

Through the proposed legislation, the reduction of pollutant loadings follow rationally from a scientific analysis and site specific conditions and the technologies available to improve those conditions. Priorities are established based on the quality and use of receiving waters, ecosystem health, and the sources of pollutants that legitimately threaten the watershed.

AMSA believes that comprehensive watershed management planning must emphasize establishing priorities, maintaining flexibility, and empowering local, regional, and State government and the affected community at large to solve their unique problems.

Our bill does not, and I underscore not, focus exclusively on non-point sources, and there's absolutely no suggestion in our bill that point sources will abandon their ongoing efforts and commitment to the clean water program. What it does represent is a step forward in how we address future challenges. It acknowledges that the real sources of pollution today are broader, more diffuse, and costly than in the past; it underscores the need to take a rational and measured approach to address funding constraints at all levels of government; and it recognizes the importance of stakeholders' support and buy-in to make continued progress.

I've shared with you AMSA's views today, and we look forward to working with you, Mr. Chairman, and the members of the subcommittee as the Clean Water Act reauthorization process proceeds.

This concludes my testimony, and I would be pleased to answer any questions you may have.

Mr. APPLIGATE. Thank you, Mr. Kirk.

Mr. Freund.

Mr. FREUND. Chairman Applegate and distinguished members of the subcommittee, I am Adrian Freund, Director of the Louisville-Jefferson County Department of Planning and Environmental Management in Louisville, Kentucky.

Prior to assuming my present position in July 1992, I served for three years as chief of the Connecticut Department of Environmental Protection Water Management Bureau. I have twenty-one years of experience in urban and environmental planning, and I'm also a director of the American Planning Association.

On behalf of the American Planning Association, I am here today to present the Association's views on reauthorization of the Clean Water Act. The Association and its twenty eight thousand members have a great interest in the wise protection of our Nation's water resources. Our testimony is based in part on our adopted policy on

environmental protection, which is adopted by delegates from all forty five of our chapters.

APA's policy on environmental quality seeks to achieve the conservation of non-renewable resources, the integration of environmental protection programs into comprehensive and functional planning programs and special protection for environmentally sensitive areas.

Specifically, in relationship to water, we have adopted policies which include the following provisions:

First, areawide planning and implementation of water quality management and water supply are critical.

Second, Federal funding for the construction and upgrading of publicly owned waste water treatment plants must be continued. We believe that investment in publicly owned plants often supports new growth and development and their construction provides jobs. Unlike scattered private wastewater facilities, public facilities often reinforce centralized growth and infill and prevent urban sprawl and water quality degradation.

Third we believe that data collection and analysis of existing conditions should be supported by Federal funds. Local funding of monitoring programs often fails due to competition for scarce resources.

Fourth, we believe that Federal funds should be available to small and financially strapped communities to avoid geographic inequities and to prevent economic hardship. Areas of the Nation with exceptionally sensitive bodies of water, large concentrations of waste producing industries, or large low-income populations should not suffer diminished environmental quality because of an inability to pay.

Fifth, we believe that research on the effects and magnitude of non-point source pollution must continue and that the 319 program should shift from its current focus to implementation and not just demonstration.

Two years ago our association came before you subcommittee to present a planning perspective on the Clean Water Act reauthorization. At that time, we stressed four basic premises that underlie our positions on the Clean Water Act:

First was that water quality is fundamentally related to land use and land management. The business of planners and planning is to apply foresight to the way land is used and managed. Increasingly, environmental protection is an integral part of the process of developing comprehensive plans at all levels of government. Our communities' use of land directly impacts water quality. Land use planning is undertaken, as you know, by nearly all units of government, and increasingly we are looking to infrastructure investments in waste water facilities and other capital projects as a tool to help shape and guide urban growth and reduce the negative impacts of urbanization on water quality.

Second, we testified at that time that efforts to clean up polluted water requires extensive capital investments. We believe that long range capital planning of five to six years is needed at every level of government. Stable funding of infrastructure programs at the Federal level is essential to secure large and stable capital commitments from State and local government.

Third, we have an adopted policy that says that water quality and water quantity are directly related, and we believe that both must be addressed in State integrated plans for water quality and quantity to have an adequate impact on the improvement of our water resources for fish and aquatic life.

Wetlands in their natural state, we believe, perform ecological functions that are impossible or costly to replace and are vitally important to the environment and economic health of the Nation.

Last year we came before this subcommittee to testify on the merits of H.R. 5070, the DeLauro-Lowey Water Pollution Control and SURA Restoration Financing Act. In our testimony we noted that the outstanding work of your esteemed colleagues offered an opportunity to better integrate planning and development decisions at an ecosystem or a bio-region level.

This year we are pleased at the introduction of the president's economic stimulus package, and we note that it contains a major focus on infrastructure investments that are ready to go. We suspect that those ready-to-go projects are the ones that have benefited from sound planning approaches.

APA believes strongly in the merits of the watershed planning approach. There are many signs that the benefits of sound planning are becoming more widely recognized.

In 1991 the State of North Carolina developed a whole basin approach to water quality management. Throughout 1991 and 1992, State water managers and others have begun to focus on the concept of a watershed or basin approach to water quality management as an organizing framework for the Clean Water Act.

Just last week over 900 persons participated in an EPA conference on the subject of watershed planning and management. Throughout America hundreds of watersheds in several States provide good examples of the application of planning approaches to watershed management.

I have developed watershed management programs in places as diverse as Austin, Texas; Madison, Wisconsin; and the State of Connecticut. In our own area of Jefferson County, Kentucky, a recent effort at protecting an environmental sensitive stream led by our County Judge Executive has used zoning and development standards to protect the character of the watershed and prevent water quality degradation.

The American Planning Association thus strongly supports the watershed approach as an effective tool to coordinate and integrate programs required by the Clean Water Act. We believe that the benefits of watershed planning fall into three major categories; that is, that they allow improved program efficiency, increased clean water program effectiveness, and better consistency and equitability in that they address tradeoffs between point and non-point sources and can allow for new growth.

North Carolina is but one of the many States that are exploring or have implemented watershed based approaches. Several sections of the Clean Water Act require or strongly encourage a watershed approach to water quality management. However, it appears that piecemeal implementation of the Act, a fragmented approach to funding, and a variety of separate recording requirements have dis-

couraged States and localities from pursuing integrated watershed wide approaches.

We would urge that you look at barriers to carrying out watershed based planning as you proceed on your work on reauthorization and that you attempt to remove any barriers that you identify.

Last, we have several additional recommendations for your consideration as you undertake your work:

We believe that the planning process for controlling non-point sources needs to be improved. We recommend consistency between local land use plans and State water quality plans including non-point source reduction. As mentioned previously, we believe that the program needs to shift to implementation and away from demonstration.

Second, we support providing opportunities for joint management of ground and surface water supplies and believe that the Clean Water Act reauthorization should take the first step in encouraging States to develop plans that address the interactive nature of water supply and waste water issues.

Third, the Federal Government should establish a long range capital planning budget, and we believe that funds should continue to be appropriated to the State Revolving Fund. For communities in economic hardship, additional SRF funds should be made available and payback periods should be extended.

The State Revolving Fund Program should be continued at least through 1999 with Federal capitalization funds of at least \$2 billion annually. We also believe that as part of a shorter term economic stimulus package, up to \$5 billion annually could be provided, including needs for safe drinking water.

A goal of an overall net loss of the Nation's remaining wetlands should be included and clearly defined as you work on the Clean Water Act reauthorization, and we believe that you should encourage a partnership approach between Federal, State, and local governments for the protection of wetlands. That partnership should include land use planning approaches that can be encouraged to better protect wetlands.

Last, the Association fully supports adequate Federal funding for State and local governments to carry out and manage their responsibilities under the Clean Water Act, and we note in that regard that current State management needs are estimated at \$700 million annually and that section 106 appropriations must be dramatically increased.

Let me conclude by thanking the Chairman and the committee for inviting us to testify, thus providing the planning profession an opportunity to share with the subcommittee our thoughts on the Act. I would also like to stress that recent models such as the Intermodal Surface Transportation Efficiency Act demonstrate the merits and provide a good model for use to develop a participatory integrated Federal, State, local planning partnership approach.

Thank you very much, and I would be happy to address any questions you have.

Mr. APPLEGATE. Thank you, Mr. Freund.

Mr. Tucker.

Mr. TUCKER. Thank you, Mr. Chairman. My name is Scott Tucker. I'm the Executive Director of the Urban Drainage and Flood

Control District in Denver, Colorado. The district, you might note, is a multicounty agency covering parts of 6 counties and 30 municipalities.

Today I'm appearing on behalf of the National Association of Flood and Stormwater Management Agencies, which we call NAFSMA. We appreciate the opportunity to present our views to the committee.

Pursuant to the Clean Water Act of 1987, some 200 larger cities and counties serving a substantial portion of urban America have or will soon submit their applications for NPDES permits for their stormwater systems.

Despite considerable uncertainty and local resource constraints, the commitment of local resources to respond to this mandate has been significant. By NAFSMA's estimate, these 200 cities and counties have spent over \$130 million just to prepare applications.

For example, it cost over \$2 million to prepare separate applications for the cities of Denver, Lakewood, and Aurora, Colorado. Much more will be spent by these cities to comply with the requirements of the permits.

The programs that municipalities must develop to control pollutants conveyed by municipal systems will be new programs. And, unfortunately, we do not know how to predict their performance or effectiveness. In short, the Nation's larger cities and counties are now embarked on a large demonstration program. We bring this to your attention to assure you that a considerable effort has been made and will continue to be made to reduce pollutants in stormwater in spite of some doubts and concerns.

There's a need to emphasize in the Act more definitively that municipal stormwater systems convey, not create, pollutants that are generated by many widely dispersed sources. As such, municipal stormwater systems are more like non-point than traditional point sources. Unfortunately, the NPDES program has been developed and applied primarily to the regulation and control of point sources and does not lend itself well to non-point pollution control.

Short of massive engineering solutions involving costly storage and treatment of municipal stormwater, we must rely on programs with source control, pollution prevention, public education and so on. It is important to understand that compliance with or water quality standards in every storm event cannot be achieved. Clarification of the use of water quality standards and objectives as applied to municipal stormwater is needed to account for the fundamental difference between municipal stormwater and the traditional waste water and industrial effluent point sources.

This is a critical issue to us because without a clarification municipal stormwater systems are subject to being held to standards they cannot achieve. Water quality objectives for stormwater need to be developed that properly relate designated uses and are technologically and financially achievable. Existing water quality standards can be used to measure progress but compliance should be measured by performance of the practices specified in the permits.

NAFSMA is concerned about the lack of Federal and State commitment to stormwater problems. Their main concern seems to be how much it will cost them to administer the regulatory programs

which is a small fraction of what it will cost local governments to comply with permit mandates.

There are some pollutant sources for which control can best be addressed at the Federal level. For example, initial rough estimates by a California stormwater permittee is indicating that copper in brake pads may be the primary source of copper in stormwater. Studies at the Federal level could determine the extent to which this is the case. If further study would verify this to be the case, consideration should be given to eliminating copper from brake pads, but local governments cannot or should not be expected to remove it from the stormwater.

Finally, NAFSMA believes that we are not ready to proceed with a statutory expansion of the stormwater permit program beyond the sources that are presently subject to permit requirements. It is crucial that we gain more experience and knowledge from the significant effort that is now underway for phase one of the program.

Again, we thank the committee for the opportunity to share the views of NAFSMA on the Clean Water Act reauthorization. If appropriate, I'd like to request that the NAFSMA report that was referenced in our formal statement be included as a matter of record. It's a survey NAFSMA conducted of the cost of permit applications.

Thank you, Mr. Chairman.

Mr. APPLGATE. Without objection, it will be.

And at this point before I go to the next witness, I think our best bet would be to recess for about 15 minutes, and if you would just hang in there, we have an extremely important vote that we have to make. I think it's the journal.

But, unfortunately, these are one of those necessary things that we have to do, and we will be right back.

[Recess.]

Mr. APPLGATE. The ranking member has not returned yet, but will be here shortly. But I think that we'll go ahead and resume our hearings, and we will go to Mr. Harrison.

Mr. HARRISON. Thank you, Mr. Chairman.

I'm the General Manager of the Fresno Metropolitan Flood Control District in Fresno County, California, and I'm appearing today on behalf of the California Stormwater Quality Task Force, which I served as chairman for the past 3 years.

The task force is a rather unique organization of some 500 parties represent municipalities, business, industry, regulatory agencies, and independent technical firms. It has been recognized by the California Water Resources Control Board as its advisory unit on implementation of the stormwater sections of the Clean Water Act and work of the task force has led to the development of progressive stormwater quality compliance programs across the State.

Through the leadership of the task force, seven of our largest metropolitan counties containing in excess of 15 million people in dozens of cities have been operating under regional stormwater NPDES permits since 1990 implementing a variety of comprehensive stormwater quality improvement programs.

It was our privilege to testify before the committee in April 1991. At that time we could only predict the problems that we foresaw and the implementation of the stormwater rule. Today we can define and quantify those problems, we can describe for you the di-

lemma that it has created for local government, and we can more importantly I think provide a specific proposal for a functional remedy.

The problem is somewhat of a simple one. Though clearly unintended, the stormwater quality mandate today is now existing end-of-pipe water quality objectives, but even with massive treatment and structural measures, the tremendous number of variables in stormwater flow and in urban pollution make achievement of end of pipe objectives impossible for stormwater discharges.

As simple as the problem is, it is horrendously expensive. Quite bluntly, Mr. Chairman, we believe that the stormwater quality mandate appears to be the most expensive in our country's history. As you've already heard, the cost of preparing a municipal permit application is averaging \$761,000 per community or \$140 million nationally. And this expenditure only initiates the paperwork; it does not begin to pursue any stormwater clean up activity.

The initial capital cost to pursue compliance with existing water quality objectives for stormwater systems is now estimated at \$400 billion. The continuing annual cost for operations and maintenance of those stormwater systems focused on existing water quality objectives is over \$500 billion per year.

The city and the county of Sacramento alone would incur cost of \$2 billion, that based on a complete attainability analysis conducted in that community. Even with such massive expenditures, stormwater discharges still cannot consistently achieve the water quality objectives as they're currently stated.

I should note a parentheses at this point with respect to the discussion on the SRF program. More to the point, the SRF program simply does not work well for the stormwater compliance programs recognizing that many of those programs are software (house-keeping) practices rather than hardware (structural) systems.

The dilemma for our local government is a painful one. The cost of our total environmental mandate and the cost of the stormwater mandate alone exceed the capability of local government. The cities of Columbus and Anchorage have calculated environmental program compliance costs of \$1.6 billion and \$430 million respectively.

This cost represents per capita cost of up to \$1,800. What we're finding in the Sacramento area is that the per capita cost of the stormwater compliance effort alone is \$1,900. The stormwater quality issues faced by local government clearly are seen in their impact on other public services, that is, being forced to chose between basic services.

In a recent briefing of my own board of supervisors on the needed stormwater quality tax, the chairman noted that before raising our taxes to pay for stormwater quality, I should consider that perhaps half of the county fire stations are going to be closed this year and that our jails are going to be releasing prisoners early because of revenue shortfalls.

During the past 2 years, our task force has led discussions not only within the State, but across the country with business, industry, environmental and governmental interests, and from those discussions, we think we've been able to identify principles upon which can be constructed a functional stormwater quality program.

We believe that our legislative proposal, which we've attached to our written statement, incorporates those principles. It is environmentally responsive, and we think proactive. We believe it protects and continues progress toward national water quality objectives. We think it is reflective of regional needs and variations and allows States the flexibility and discretion that they need to develop stormwater programs. Importantly, we think it's measurable and enforceable, and we think it holds municipal permittees accountable to their program efforts, and certainly it protects local municipalities against the unachievable compliance mandates and indefensible enforcement actions.

As presently structured, Mr. Chairman, the stormwater section of the Clean Water Act creates a regulatory program in which the large majority of participants will be in continual and unavoidable violation of the law. Such a program is not what Congress intended, it cannot achieve its objectives, and we believe it can only collapse under the weight of an impossible compliance burden.

It has been the effort of our task force to identify the constructs of a workable stormwater quality program, and now the task is before the Congress to amend the Clean Water Act in a way to make that workable program the legal program.

We certainly appreciate you and your staff and the time and interest that has been shown to the stormwater issue, and we'll be happy to answer questions or provide any addition information that you would need.

Mr. APPLGATE. You're very fast.

Mr. HARRISON. Thank you, sir. That's a compliment.

Mr. APPLGATE. Now Ms. Dunihue.

Ms. DUNIHUE. Thank you, Mr. Chairman and members of the subcommittee.

I am Anne Dunihue, a publicly-elected director of the Chino Basin Municipal Water District of Rancho Cucamonga, California. Chino Basin is a wholesaler of water in addition to its primary activity of wastewater treatment for more than a half million people in southern California.

I am here today as president of the California Association of Sanitation Agencies, otherwise known as CASA. In the interest of time, I will summarize my written testimony:

CASA is a Statewide association of ninety small, medium, and large wastewater treatment agencies that collectively serve more than 15 million people throughout the State of California, over half the population of the State.

CASA members have a long history of providing wastewater treatment to the State's residential, commercial, and industrial facilities. Many of our members have begun providing water reclamation services. This is part of pollution prevention initiatives and to enhance water conservation.

Since 1972, CASA agencies have endeavored to work with EPA and industries to implement the requirements of the Clean Water Act. We are pleased to have the opportunity to recommend Clean Water Act policy revisions.

A number of clean water policy issues are ripe for the subcommittee's review. In the interest of time, I will address two key issues:

One, the need to develop a comprehensive watershed management approach to guide clean water policy and regulation. We must replace the current top-down "command and control" approach to address all water pollution sources in a cost-effective manner.

And, second, renewal of the SRF with adequate funding levels. Water quality improvement and protection in the 1990s and beyond will require a policy that differs from those of the past. In the 1970s, we relied on the control of conventional pollutants through the application of technology-based controls on point sources. This approach has resulted in significant water quality improvements.

The 1987 Act heralded a significant change in water pollution control mandates, a shift away from a technology-based approach to a water quality-based policy. The amendments embody a command and control approach that provides little flexibility to address site specific-water quality problems.

In the past two years CASA has worked with a number of groups seeking a consensus on developing a watershed management approach. It makes little sense to require compliance with numeric standards or effluent limits in permits until all sources are addressed in a coherent plan.

This is especially true as all levels of government grapple with limited budget resources. The San Francisco Bay area provides a good example of how the existing command and control approach fails the public.

Since 1960, San Francisco Bay area POTWs have spent more than \$3 billion to upgrade wastewater treatment systems. These improvements have resulted in 95 percent removal of conventional pollutants and reduced toxic discharges. These POTWs estimate the cost to meet water quality-based metals limits at \$1 million for each one million gallons per day discharged. This could total as much as \$1.1 billion per year.

California's State Water Resources Control Board has estimated that POTWs and other point source dischargers contribute less than three percent of the total pollutant loadings to the Bay. Alternatively, riverine, urban, and non-urban run off contribute approximately 16 percent, 58 percent, and 19 percent respectively.

Even if all industrial and municipal discharges achieve the goal of zero discharge, this would result in a reduction of less than 310 tons out of a total of 9,600 tons each year.

We urge you and your colleagues to re-examine the fundamentals of clean water policy. This will ensure that water pollution control mandates conform to the complicated nature of water resources protection. While CASA does not formally endorse any specific watershed management proposal at this time, we have identified the following seven elements as essential to any watershed program:

First, review of pollutants. Based on existing information, identify those pollutants in each watershed that may be interfering with the attainment of current water quality standards.

Two, survey of pollutant sources. Based on existing information, identify all significant point and nonpoint pollutant sources that may be contributing to violations of water quality standards.

Three, monitoring. A multi-year monitoring program should be designed and implemented to characterize existing conditions and the significant sources of pollutants in a watershed. This character-

ization would provide information on water column concentrations, sediment conditions, habitat, and biological resources to assess the degree to which beneficial uses are impaired.

Four, identifying high priority waterbodies. Based on monitoring programs and the most accurate methods available for assessing compliance, waterbodies that violate water quality standards are identified.

Five, site-specific water quality standards. Develop site-specific water quality standards for the identified watersheds. Such a plan would comply with the Clean Water Act and applicable State law.

Six, waste load allocation. Establish total maximum daily loads for identified water bodies including a waste load allocation for point sources and a load allocation for non-point sources.

Seven, Watershed program implementation. A program should require compliance with agreed-upon measures within ten years from the date of adoption. It would include a schedule with important milestones to ensure timely implementation and compliance. Implementation plans should be feasible, taking into account institutional, technological, financial, regulatory, and socioeconomic constraints.

In summary, watershed management addresses the technical issues behind our efforts to restore the ecosystem. However, adequate funding for wastewater treatment needs is no less important. Since the 1987 amendments, Congress has funded construction assistance for wastewater treatment facilities through the SRF program. CASA supported this transition from the traditional grants program during the debate on the 1987 Act. We welcome President Clinton's request for an additional \$845 billion in SRF assistance in 1993. This means the SRF program authorization will be fully funded.

However, meeting statutory obligations and actual needs are two different matters. California's funding needs are conservatively set at \$5 billion. Estimates of total need beyond the decade far exceed this figure. Nationwide funding needs exceed \$110 billion. Continued Federal support of the SRF program is critical for two reasons:

First, construction of these facilities directly benefits the environment by restoring habitats and preserving our gains.

Second, the program supports long-term economic growth. It enhances a local community's capability to accommodate residential, commercial, and industrial growth in a manner protective of the environment. The administration's preliminary economic plan identifies its intention to create a new SRF program in 1995.

The administration proposes to provide \$2 billion per year to the SRF through 1997. CASA believes this commitment is a good start. Nonetheless, we recommend a minimum of \$5 billion per year in Federal funding for the SRF. This level would constitute a return to historic funding levels.

If we as a nation require compliance with increasingly stringent Federal water pollution control standards, then the Federal Government has a responsibility to assist us in meeting these mandates. In addition to providing adequate Federal assistance, CASA also recommends that the subcommittee take the following steps:

One, specifically authorize SRF funding to support priority pollution prevention projects such as wastewater reclamation.

Two, revise the Federal allocation formula used to allocate assistance to the States. Any formula must take into account population growth in addition to water quality needs.

Three, clarify that point source pollution control construction assistance continues to be the priority unless a watershed management plan is adopted that contains mutually acceptable alternatives such as estuary protection, nonpoint source abatement, or other activities.

As you contemplate revisions to the SRF program, CASA encourages you to consider new priorities for use of these funds. As secondary treatment needs are met, Congress should consider how to best redirect available assistance. Pollution prevention should be a top priority.

One of the most promising pollution prevention programs involves wastewater reclamation. This kind of project provides environmental benefit by reusing treated wastewater and minimizing pressure on already limited water supplies.

Finally, CASA would like to address the Administration's proposal to create a drinking water SRF program that would assist municipal compliance with Safe Drinking Water Act requirements. Many CASA agencies perform dual services, providing waste water treatment and drinking water supply, which is the case at Chino Basin.

Federal assistance to drinking water suppliers would mark a milestone in the federal-local partnership that is long overdue. CASA supports the Administration's commitment in this area.

Nonetheless, we are deeply concerned that we avoid the trap of robbing Peter to pay Paul. Any drinking water SRF program must stand on its own merits. Limiting wastewater SRF funding would dilute the progress made to date. Therefore, while we encourage this new Federal partnership, we hope that its funding will be secured without sacrifices from the wastewater community.

As I noted earlier, California alone has more than \$5 billion in wastewater construction needs that are eligible for Federal SRF assistance.

Mr. Chairman, there are a number of other clean water issues that concern CASA. These include retention of the domestic sewerage exclusion, requirements to control stormwater and CSOs through costly technology-based standards, and limits to the interstate transport of solid waste that could inadvertently include sewage sludge.

CASA looks forward to working with you and the committee to ensure that renewal of the Clean Water Act also addresses these important issues.

Mr. Chairman, this concludes my testimony. I would be pleased to answer any questions you or your colleagues may have. Again, CASA appreciates the opportunity you have extended us to participate in this important endeavor.

Thank you.

Mr. APPLGATE. Thank you, Ms. Dunihue, and thank you all very much for your testimony.

I'll see if I can start some place here because there's a lot of stuff to talk about.

Let me see here, first of all, I guess I did want to mention, Mr. Harrison, your problems with the current statute. You mention in here—you talk about some humongous figures. I mean, it even staggered my mind and I deal in big bucks here—but you mention in here that the national survey by the National Association of Flood and Stormwater Management Agencies has determined that the cost of the municipal parts to stormwater—any way, it gets down to saying will exceed \$140 million or an average of \$761,000 per community.

That's a huge amount of money, and, you know, I'm like you. I think it's very high, and, obviously, whatever cost go into preparing these programs and all, it's drawing down—I think you had mentioned or maybe Ms. Dunihue had mentioned—that it's drawing off of other necessary needed programs in communities. There's no question about it.

But where do you come out with such huge figures because in number four then, and I'm not sure whether this is misprint or not, but you talk about nationwide survey also conducted by the American Public Works Association that determines the initial cost of the attempt by municipalities to achieve water quality objectives as currently expressed will total \$415 billion and that continual annual cost will total \$542 billion.

That's more than half a trillion, and I know that—now you're just talking about—you're zeroing in primarily on stormwater problems.

Mr. HARRISON. That's correct.

Mr. APPLEGATE. Can you give me a little idea as to where all this money is going to go and even in the permit figures that you give.

Mr. HARRISON. The study on the application cost was in fact a study of contacting some 200 local municipalities who are required to prepare permits under the existing 1987 Act amendments and their related stormwater regulations, and that's the actual cost the folks are incurring. The cost of my permit was \$700,000, the one for Mr. Tucker was a couple of million dollars in his area, and the \$760,000 is the average actual cost, and they're running half a million to two million dollars, per community just to prepare the application to get an NPDES permit for the municipal system.

Mr. APPLEGATE. Now you sent this out to how many different—this survey out to how many different places? It was conducted by how many different places?

Mr. HARRISON. The 200 that are currently required to secure permits under the existing regulation.

Mr. APPLEGATE. What size communities are we talking about?

Mr. HARRISON. These are municipalities 100,000 and larger.

Mr. APPLEGATE. One hundred thousand and larger.

Mr. HARRISON. It does not address, of course, the second half of the program, which ultimately will require all communities of any size to come under compliance with the Act with respect to stormwater discharges, that that is still being debated as to how that's going to be implemented.

It also does not count the cost of compliance by the industries who must have separate individual stormwater permits for their sites or for all construction sites across the country, which must also get separate construction sites. And it's not uncommon to find

compliance costs in those areas of tens of thousands of dollars per individual site if not more.

The actual implementation cost, the numbers in the billions, is in fact again from a nationwide study looking at the cost of actual stormwater clean up efforts that are being carried out across the country, looking at things like the attainability analysis that was conducted by the community of Sacramento to try to bring their stormwater discharges into compliance with existing water quality objectives established for the American river.

What is not frequently understood is that the receiving water standards today are stricter for many constituents than drinking water requirements, and you're talking in terms of stormwater with huge volumes of water coming in very short periods of time, that are required to meet these numbers.

We have a serious construction problem in the way the original act addressed stormwater, and it's our approach to try to find a workable solution, thus the draft legislation that we've assembled for your consideration.

Mr. APPLEGATE. Is this based on the assumption that the vast volume of stormwater would have to be treated to secondary treatment standards?

Mr. HARRISON. And more.

Mr. APPLEGATE. And what?

Mr. HARRISON. And more. Secondary treatment will not get you there and in fact we know of no treatment methodology available today that would allow stormwater to meet the numbers. The irony of the attainability analysis in the Sacramento case was that after spending \$2 billion—that's b, billion—for that community, some \$2,000 per capita, they still could not hit the numbers for lead and copper in the receiving waters.

Mr. APPLEGATE. They can't hit the numbers. So what needs to be done to correct that?

Mr. HARRISON. We believe that we need to go back and re-examine Congress' original intent of looking at stormwater programs, where you're looking at comprehensive community-wide house-keeping programs to address the things that cause stormwater to be dirty, rather than looking at putting treatment systems on the end of pipes.

Mr. APPLEGATE. I think you and Mr. Tucker had both mentioned the problem of municipalities being able to control inputs into stormwater systems such as run off of pesticides and oil from cars and that type of thing.

Do you think that local government should have greater authority to ban certain chemicals that are degrading to surface waters?

Mr. HARRISON. That's I think the question that we're laying before you. Many of our programs are now doing detail source investigations. The Bay area program was required to do so under a related program and that's where we found the information having to do with the copper loadings. Their stormwater system is under a mandate to remove copper, but they have no authority to control the makeup of the brake linings which seem to be the source of the majority part of the load.

The question is should we have a national standard that says that you're not going to have copper and brake linings? The answer

is probably yes, but I'm not sure that I as a local stormwater manager am the one to write that rule or to implement it.

Mr. APPELEGATE. Just as a point of interest, I'm curious and I happened to ask all of them this but we're working within a very tight budget and we're trying to resolve over the next few years as to how we can get the deficit down. And I know that the people in your sad situation are looking for more money to try to help them handle these Federal mandates, and so I commend you for that.

How do we stay within those budgetary figures, how do we handle the deficit, and where does the money come from?

Ms. DUNIHUE. That's a very good question. I wish I had the answer for it. I do have a regulatory person here from CASA that could possibly give you some insight into it or provide information in a written form to you.

Mr. APPELEGATE. Okay.

Ms. DUNIHUE. But California does have tremendous needs.

Mr. APPELEGATE. I know you do. You're a very vast community out there, and you're up above, what, 50 million?

Ms. DUNIHUE. I believe it's closer to 30 million.

Mr. APPELEGATE. Oh, is it 30? I think in terms of numbers of Congressmen. I guess we have about 50 of those. [Laughter.]

You had advocated giving the States primacy in developing and implementing standards that provide for the highest beneficial use in environmental quality that is reasonably attainable.

How would you propose changing existing law which requires that States develop water quality standards to accomplish that? How would your idea differ from the existing programs?

Ms. DUNIHUE. Mr. Chairman, I would like to defer your question to one of our CASA regulatory people that is here with me, if I might.

Mr. APPELEGATE. Sure.

Ms. DUNIHUE. Ms. Bobbi Larson.

Mr. APPELEGATE. You're perfectly welcome to take the microphone and address that.

Ms. LARSON. Thank you, Mr. Chairman and subcommittee members.

Mr. APPELEGATE. You can sit down; pull up a chair so you don't have to stand. There you go.

Ms. LARSON. I don't think that I'm any better equipped than our president to answer the first question as far as what we do about the deficit and all the competing funding needs. But in terms of that question and the question that you just answered, that's why we and so many others have come forward with the recommendation to establish a watershed management approach to water quality because we feel that that approach involves not only local flexibility, but it also allows regulators to choose the most cost-effective solution to water quality problems.

So if you have a problem with copper in a water body and you have a certain amount of copper coming from point sources, a certain amount from stormwater run-off, and a certain amount from abandoned mines and you know that you can meet the water quality objective by controlling one of those three or any one of those three, you choose the most cost-effective way of doing it and fund

it that way rather than saying we simply have only the option of requiring end-of-pipe treatment at a cost of a billion dollars.

So we think that watershed management has a lot of advantages for both the environment and the fiscal problems that we face.

Mr. BOEHLERT. Mr. Chairman, may I interject here.

Mr. APPLEGATE. Yes, Mr. Boehlert.

Let me ask you, the whole Palo Alto thing just is mindboggling, a hundred million dollars, and if you had the flexibility, it could go upstream a little bit and do some things differently.

What impediments are there in the present law that prevent you from doing that?

Ms. LARSON. Well, the present law is predicated on a sort of "command and control" approach or more of a prescriptive approach. We find with our State entities, for example, that they feel that EPA does not give them the flexibility to do the kind of things that we're asking for. And we think we need a nationwide direction to the regulators both at the Federal and the State level that this is in fact what the Congress wants to see and that we want to change our regulatory focus from this limited historical approach to one that's more suitable to the kinds of problems that we face in the watersheds.

Mr. BOEHLERT. So in the Palo Alto case, if I may continue, I mean, you felt you had no choice but to go ahead with that hundred million dollar program?

Ms. LARSON. I'm not—I'm sorry, I'm not familiar with specifically what occurred in Palo Alto.

Mr. BOEHLERT. Okay, well, it's in Ms. Dunihue's testimony and that sort of thing I find mindboggling.

Ms. LARSON. Oh, we're talking about copper loadings to San Francisco Bay?

Mr. BOEHLERT. Yes, right.

Ms. LARSON. Okay, I'm sorry. What we're facing now are these new metal limits and permits in the San Francisco Bay area and our regulators have said that they have no choice but to put those numbers in the permits and that we must meet them. That's why we're here advocating watershed approach because we are finding things like the example that was mentioned about the copper in the brake linings.

The city of Palo Alto actually tried to do a product ban. They tried to ban the use of copper sulphate as a root control and what they found was that they had a lot of cooperation from the local merchants; they took it off the shelves voluntarily. But the way the Bay area is, and many other areas, cities are right next to each other and you can go from one city to the next or even regionally. With things like brake linings, it just doesn't make sense from a local level and we think those are the kinds of things that need to be addressed at the national level as opposed to the local level.

Mr. BOEHLERT. Thank you very much.

Thank you, Mr. Chairman.

Mr. APPLEGATE. Thank you, Mr. Boehlert.

Mr. Kirk, I guess perhaps I should address that question that I addressed to Ms. Dunihue more to you because you're advocating \$6 billion—

Mr. KIRK. Billion.

Mr. APPLEGATE. I thought I said billion. We get confused with those M's and B's—

[Laughter.]

Mr. APPLEGATE [continuing]. And so I'd be interested in hearing what you have to say. Of course, the budget calls for two, and we're sort of tied into that right now. And I'm just wondering if you have any reflections on that as to the source of the revenue that your organization feels would be able to fund that State Revolving Fund.

Mr. KIRK. It is a good question, and we do recognize that the numbers that we're asking for are extremely high. We have taken a serious look at proposals that have been talked about in terms of focusing on dedicated revenue sources as a way to raise some additional funds over and above general revenues. And I believe our association or members would support some serious consideration be given to tapping resources such as these dedicated revenue sources that might include product taxes, or taxes on fertilizers, and pesticides, or other types of things that are directly associated with impairments in water quality.

The numbers are high, \$6 billion is very high, but by the same token, the numbers at the local level are extremely high too.

Mr. APPLEGATE. Yes, they certainly are.

I had a question here that has been of interest to me because I have introduced legislation to try to help the States, and you oppose what you call unreasonable restrictions on the interstate transport of sewerage sludge or what they call biosolids as it's now known.

Can you tell me what you think is unreasonable restrictions, and don't you think the States should have—since we always look at the States to be able to protect the health and welfare of its citizens—to be able to regulate this interstate transportation of waste coming into their States? Well, there is legislation in now, which I have introduced and I've joined with others to allow the circumvention, more or less, of the prohibition by the Constitution, which says to the States, you have that right or the local communities have that right to make the determination if you want to come in or if you don't.

Mr. KIRK. It's a very good question, and I would answer it by suggesting that, you know, for years and years and years, going back to the mid-1970s, the Federal Government, the Congress, EPA, and other Federal agencies have encouraged all of us at the local level to clean up the water. The reason we have a biosolid or a sludge problem today is because the program has been successful.

We have also been encouraged to promote the beneficial use of these products, so in one sense, they're not waste. And if they're not waste and they can be beneficially reused, we believe it's extremely important that there not be barriers to the transportation of these products between State lines.

It's very, very difficult to develop programs to promote the beneficial reuse of sludge or biosolids, as it is now called, as it is. We don't need any further barriers.

Mr. APPLEGATE. Well, of course, it's good for one side and not good for the other—the sender or the sendee—and I know that there's an exceptional amount that comes into Ohio, as in the case of landfills and places like that.

What happens if the sludge is destined for a landfill?

Mr. KIRK. I really wasn't addressing myself to the situation of a landfill. I was addressing the situation that involved the transportation of biosolids across State lines for land application or other beneficial uses, and I think there is a distinction to be made between the two. If a waste is going across State lines to be disposed of at a landfill, it is more of a waste and not a product. And that is a very important distinction.

Mr. APPLGATE. Well, that's my concern and that's my direction rather than the use of the sludge as byproduct, but I don't have any real objections to transporting any of that stuff. It's just that it's going to end up in landfills or strip fields or different things like that, and it does pose a problem.

Anyway, I just have one quick question. We don't have a lot of people here, so we can extend it maybe a little bit.

We do appreciate the efforts of your organization to develop a watershed management proposal. That seems to be something that a lot of people are looking to. Included in that proposal is the creation of a watershed management commission or more than one.

And tell me why it's necessary to create a new level in the process between local government and the States, and how the commissions would operate.

Mr. KIRK. Our proposal calls for the establishment of watershed commissions by the governors of each State and also encourages local governments to play a major role in the process of establishing those commissions.

In cases where there are existing governmental entities that can focus on the same types of issues to the same degree, I think our proposed language has sufficient flexibility and latitude to allow that to happen. But the key point is that we want to make sure that the stakeholders within each of the watersheds that would be established are brought to the table and given an opportunity to participate in this process, which in our view, is a bottom-up approach, as was mentioned earlier, and not a top down approach—although within our proposal, the Federal Government and the State government would play a prominent role in participating on the commission, overseeing the activity of the commission, approving the plan, and implementation through the existing mechanisms of the Clean Water Act.

Mr. APPLGATE. Anyway, you feel there's a real need to develop the management commission. It's not just creating another expensive level that we have to just continue to add on.

Mr. KIRK. I think it's important because I think you have to start someplace. A lot of people would say and have suggested that there isn't a need to amend the Act in any major way because authority apparently exists within the statute.

I think we're talking today about the need to re-evaluate how we have approached clean water problems, considering the funding constraints at all levels of government, and the types of problems that we're going to be facing in the future. And I think it's going to take a lot of time, and a lot of effort, and a lot of work and money. But the time to begin that process is now because we have a long way to go, and I don't think we're going to make the same

kind of progress that we've had over the past twenty years in the next twenty years if we don't make the change beginning today.

Mr. APPLGATE. Okay, all right. I can appreciate that.

Well, I'll end that and yield to our former county executive who I'm sure has some very straight-forward and pointed questions.

Mr. BOEHLERT. Well, I just want to ask Mr. Kirk, you talked about the grant program working before—I'm sure it worked—but are you advocating that we re-institute a grant program?

Mr. KIRK. Our position is that the Congress should continue to capitalize the State Revolving Loan Program and, in addition to that, complement the loan program with a grants program, and authorize the states to use those grant funds to address particular problems within their states that may not be easily dealt with or appropriately dealt with through a loan program.

So in one state a governor or the state department may decide that grants should be available for hardship communities, or smaller communities, or CSO communities. And in each case, the State would be able to develop a program that ensured that the loan program and the grant program were working in concert, and there would be no one waiting on line for a grant simply because they were available.

Mr. BOEHLERT. Yes, I'd like you to rethink that, if you will. At least give some thought to the concept of principal subsidy program. I mean, I like the idea. I think we should put more money into the State Revolving Fund. I think we should give more flexibility to the State governments, but the principal subsidy program is one that I'm enamored with because I think that gets more projects going and that's the whole objective of the program—to get more projects going. And when we have the grant money, the winners are very happy—and I understand that. I used to be on occasion very happy as a county executive when we won some of the sweepstakes that we were competing for down here. But our objective if we get a much broader mandate is to get as many projects going as we possibly can to clean up the Nation's waters, so take a look at that please.

Mr. KIRK. We will, Congressman.

Mr. BOEHLERT. Thank you, and then, Ms. Dunihue, that Palo Alto thing keeps hitting me back. I like the idea of watershed management, regional management. It makes so much more sense than the way we usually do things.

Have you given any thought or would you give some thought to a pollution permit trading system, much like we've initiated—launched under the Clean Air Act amendments? Maybe we could do something like that and if we did it on a watershed or regional basis, Palo Alto would not have had to spend a hundred million dollars. You might have been able to more effectively use that money elsewhere.

So do you have any comments or thoughts on it?

Ms. DUNIHUE. I think that's an excellent suggestion, and we have begun to explore the idea of trading. Up until now, there's been a lot of attention focused on point types of trading, and we're thinking that if it's broadened to a watershed concept, that the trading concept fits right in with that; that you have a water body that has a certain limit of the input that it can take and that you

design the program to manage those inputs. And perhaps you do say, well, we're going to control this source upstream in a more cost-effective way than we could control this source and we achieve the same goal without spending unnecessary amounts of dollars.

So we think it's an idea that has a lot of possibility.

Mr. BOEHLERT. I would greatly appreciate it and consider it a personal favor if you would collect some of your thoughts on that, and at your earliest convenience, share that with me and the committee, but particularly address it me, will you, and I'll share it with the committee. But I think that's moving in the right direction.

You know, Washington is not the source of all wisdom, and I think there is a lot of brain power out there all across America, and I agree wholeheartedly with all of the witnesses that have appeared before us in this hearing today and yesterday requesting more flexibility. And I hope all of you will take a look at the principal subsidy program and be a little more analytical as you look at the potential benefits of starting a—re-instituting a grant program.

And I understand and appreciate the problems of some of the distressed communities, but I think there's a way to address their special problems through a principal subsidy program that in effect is a grant program. But it's not Washington dictating whole operation; it's the States managing within the States their program and having the flexibility to perhaps subsidize seventy five percent of the principal payment on a no interest loan for a hard pressed community.

So I think it has a lot of merit. We got to think anew.

Thank you all very much for your outstanding testimony, and I look forward to hearing particularly from you.

Thank you.

Ms. DUNIHUE. Thank you very much for the opportunity.

Mr. APPLGATE. Thank you very much, Mr. Boehlert.

Mr. Horn.

Mr. HORN. Thank you, Mr. Chairman.

One question and then I'd file the rest with the committee and coordinate it between staffs because I've missed a few minutes of some of your testimony.

Ms. Dunihue, you mentioned you seek revision of the State Revolving Fund formula, and you mentioned that obviously one factor was population growth. But then you mentioned certain other important criteria, and I'm just curious what sort of categories fall under other important criteria in a revision of that formula?

Ms. LARSON. Again, I think—if I might answer that. What we're trying to do is look at the SRF the same way we're looking at the whole water quality solution, which is based on need and the—the real need for water quality improvement in a State or in an area, and part of that is population, part of it is the water quality situation, the site-specific conditions that exist within a State, and we think we need to direct the resources to the places where there's the greatest need. And that is essentially what we were trying to get at with that.

Mr. HORN. One of the things that's concerned me with formulas, be it at the Federal or State level, is often the rewards go to those

that have done the least, and I wonder if you've had an experience with that where those that have really tried, perhaps been involved in this prior to regulation and all the rest of it, don't really get the help they need to finish the job.

What's your reaction?

Ms. DUNIHUE. Unfortunately, what does happen is that whenever you've worked hard to attain a certain standard and then you're penalized because you've been unable to attain that standard, and we found that to be true in our operations at Chino Basin and the Santa Ana River.

Ms. LARSON. Just a couple of examples and I'm not sure they're quite on point because they don't deal with funding specifically, but we have examples where there are water quality standards set by the State that go into the water quality plans and because some of our treatment plants can achieve numbers much lower than that or the regulators believe they can, it's sort of a return to a technology-based standard really. They then put those much, much lower limits into permits. We have a case—example of a Los Angeles County sanitation districts where their permit limit for toluene is 284,000 times more stringent than the applicable ocean plan. And now they're out of compliance with their permits about four times a year because they can't achieve that very, very low number that was not in fact based on a water quality need but based on what could presumably be achieved through technology.

And just in terms of the funding, I think it's a good point about the needs not only being matched up with the money because the SRF can be a very cumbersome process to go through. And in California the State water board has added additional requirements on top of the Basic Loan program. It requires water conservation programs—not that these aren't good things, but we wonder if they are really appropriate to a loan program—water conservation program capital reserve requirements, and a number of other things. And that makes it very difficult for smaller communities to participate in that process. It's a full-time job just filling out the applications and shepherding it through the process, and so as a result, we find that sometime most of the money goes to those more sophisticated agencies that can run their way through the process.

Mr. HORN. Any other comments from other members of the panel on those questions?

Mr. FREUND. Yes.

Mr. HORN. Yes, Mr. Freund.

Mr. FREUND. Let me just make one as the former administrator of the Connecticut SRF. One thing that strikes me is that there are great disparities between States in how they handle their SRF programs, and I think something needs to be done to recognize those States that make exceptional efforts.

One of the things that occurred in the State of Connecticut was that that State matched the SRF approximately three to one, State over Federal funds. It did that by establishing a separate State program, which was based on revenue bonds, on the sale of revenue bonds, which generated a revenue stream off of the interest on the loan repayments.

By adding that mechanism, that State was able to highly leverage the Federal capitalization grant, and we were able to effec-

tively provide a fifty percent grant and fifty percent loan program at very low interest rates to communities that had, in particular, combined sewer overflow needs, for example. Other communities got a twenty percent grant out of the State program money and eighty percent loan at two percent interest.

So I think it's important to think about how we can encourage States to do more with the SRF funds that they receive and how in some way those States that make an exceptional effort might be rewarded for that can and thus leverage the Federal money and make this program go much, much further in meeting the tremendous capital needs that are out there.

Mr. HORN. Any other reaction?

Yes, Mr. Harrison.

Mr. HARRISON. Just to underscore a concern and previous comment relating to the SRF program, recognizing the strengths and weaknesses, the SRF program does not work well for the stormwater compliance issues that we've addressed. Stormwater compliance generally, if it proceeds as Congress intended, is going to be programs and community housekeeping activity and loans are not well suited to non-capital expenditures. Also stormwater has neither a good solid dedicated revenue stream to generate reimbursements or repayments required by SRF loans.

Mr. HORN. Thank you.

Mr. Chairman, I have a few questions we can file for the record and coordinate so they don't overlap.

Mr. APPELATE. Thank you, Mr. Horn.

And I would say to the panel that the committee may very well have additional questions, obviously we will, and we'll have some more than that. We hope that you would answer those and get back to the committee as expeditiously as possible, and that your full statements will be made a part of the hearings.

And with that, the subcommittee will stand and recess until Wednesday, April the 14th, when at that time, we'll resume our hearings on the same subject.

Thank you very much.

[Whereupon, at 12:15 p.m. the subcommittee was adjourned, to reconvene subject to the call of the Chair.]

PREPARED STATEMENTS SUBMITTED  
BY WITNESSES

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Statement of

THE HONORABLE THOMAS V. BARNES  
MAYOR

CITY OF GARY

on behalf of

THE UNITED STATES CONFERENCE OF MAYORS

on

REAUTHORIZATION OF THE CLEAN WATER ACT

Before the

SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT  
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION  
UNITED STATES HOUSE OF REPRESENTATIVES

APRIL 1, 1993

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE, I AM THOMAS BARNES, MAYOR OF THE CITY OF GARY, HERE TODAY ON BEHALF OF THE U. S. CONFERENCE OF MAYORS. THANK YOU FOR THE OPPORTUNITY TO PRESENT OUR VIEWS ON REAUTHORIZATION OF THE CLEAN WATER ACT.

THANK YOU ALSO FOR HOUSE PASSAGE OF THE PRESIDENT'S ECONOMIC STIMULUS PACKAGE. ITS FUNDING OF ENVIRONMENTAL INITIATIVES WILL HELP OUR CITIES GREATLY. I HOPE THAT THE SENATE WILL NOW ACT PROMPTLY TO APPROVE THE ENTIRE STIMULUS PACKAGE.

#### TOWARDS CLEAN WATER ACT REAUTHORIZATION

THIS SUBCOMMITTEE FACES GREAT CHALLENGES IN REAUTHORIZATION OF THE CLEAN WATER ACT. WE PLEDGE TO WORK CLOSELY WITH YOU AT EVERY STEP OF THE PROCESS. THE CLEAN WATER ACT HAS PERFORMED SOME EXTRAORDINARY MIRACLES ACROSS THIS COUNTRY. AS WE MOVE TOWARDS REAUTHORIZATION IT MUST MAKE SENSE FOR NOW AND THE FUTURE. LET ME HIGHLIGHT SEVERAL KEY ISSUES.

#### FUNDING OF IMPLEMENTATION OF THE CLEAN WATER ACT

FOR CITIES, THE CLEAN WATER ACT IS EXPENSIVE. WE ARE DOING ALL WE CAN WITH HIGHER WATER AND SEWER RATES, FEES, STATE AND LOCAL CONTRIBUTIONS AND THE LIKE. WE BADLY NEED THE FEDERAL GOVERNMENT TO STEP UP TO THE PLATE AND HELP US MEET THESE COSTS.

WE STRONGLY SUPPORT THE PRESIDENT'S PROPOSAL TO CONTINUE THE STATE REVOLVING FUND PROGRAM AND URGE ITS REAUTHORIZATION AT \$2 BILLION PER YEAR OR MORE. THIS WILL NOT MEET ALL THE WASTEWATER

TREATMENT NEEDS IDENTIFIED BY EPA AND OTHERS, BUT IT IS WE MUST KEEP AT LEAST TO THIS BASELINE IF WE ARE NOT TO FALL FURTHER BEHIND IN MEETING THESE NEEDS. WE ALSO HOPE YOU WILL CONSIDER A PARTIAL RETURN TO GRANT FUNDING. THERE HAS BEEN SOME DISCUSSION OF A NATIONAL USER FEE FOR CLEAN WATER PURPOSES, PERHAPS LEVIED ON THOSE MOST RESPONSIBLE FOR POLLUTING OUR WATERS. WHILE THE CONFERENCE HAS NO SPECIFIC POLICY ON USER FEES FOR CLEAN WATER PURPOSES, IF THEY ARE TO BE INSTITUTED THE RECEIPTS SHOULD BE DEPOSITED IN A TRUST FUND AND MADE AVAILABLE DIRECTLY TO LOCALITIES IN THE FORM OF GRANTS THEY CAN APPLY FOR AT EPA. THE SRF PROGRAM HAS ACCOMPLISHED ITS OBJECTS BROADLY, BUT IT IS STILL VERY DIFFICULT FOR INDIVIDUAL LOCALITIES TO USE IT IN A FAST AND FLEXIBLE MANNER TO MEET CLEAN WATER NEEDS. GRANTS WILL HELP.

#### REGULATORY ISSUES

RISK ASSESSMENT. WE NEED THE HELP OF THIS SUBCOMMITTEE TO CREATE A NEW ETHIC AND APPROACH IN EPA -- NO COSTLY REGULATION UNLESS ABSOLUTELY NECESSARY AND THEN THE MINIMUM NECESSARY TO ACHIEVE REALISTIC STANDARDS. WE URGE YOU TO EXAMINE THE CONCEPT OF STANDARDS UNDER THE CLEAN WATER ACT, AND SUPPORT A WIDE-RANGING SCIENTIFIC REVIEW OF ENVIRONMENTAL RISK ASSESSMENT AND RISK MANAGEMENT PRACTICES TO MAXIMIZE THE ENVIRONMENTAL PROTECTION AFFORDED BY EXPENDITURE OF PUBLIC RESOURCES.

COMPREHENSIVE WATERSHED MANAGEMENT. WE STRONGLY SUPPORT EFFORTS TO DEVELOP AN OVERALL APPROACH TO POLLUTION PREVENTION BY FOCUSING ON COMPREHENSIVE WATERSHED MANAGEMENT. FEDERAL FUNDING AND

STANDARD SETTING FOR WATER QUALITY IMPROVEMENTS BASED ON SOUND SCIENCE CAN BE COMBINED WITH LOCAL AND REGIONAL RESPONSIBILITY FOR DEVELOPING AND IMPLEMENTING WATERSHED MANAGEMENT STRATEGIES APPROPRIATE TO LOCALLY-DETERMINED CONDITIONS AND CIRCUMSTANCES, ALLOWING LOCAL ENVIRONMENTAL QUALITY PROFESSIONALS TO DEVELOP INNOVATIVE, APPROPRIATE AND COST-EFFECTIVE SOLUTIONS TO PRESSING WATER QUALITY PROBLEMS. IN ADDITION TO SRF FUNDS, THE REAUTHORIZATION PROCESS AND SUBSEQUENT APPROPRIATIONS SHOULD PROVIDE STEADY, ADEQUATE AND RELIABLE FUNDING SUPPORT FOR LOCAL WATERSHED MANAGEMENT PLANNING AND IMPLEMENTATION.

COMBINED SEWER OVERFLOWS. THE CSO PROBLEM IS DIFFICULT AND CANNOT BE SOLVED WITHOUT A SIGNIFICANT COMMITMENT OF FEDERAL FUNDING SUPPORT TO ASSIST LOCAL COMMUNITIES IN MEETING THE NEED FOR MINIMIZATION AND MITIGATION OF CSO INCIDENTS. THE CONFERENCE OF MAYORS SUPPORTS THE ONGOING EFFORTS OF MANY CITIES AND MANY OF THE GROUPS REPRESENTED AT THESE HEARINGS TO DEVELOP A CONSENSUS FOR CSO CONTROLS AND MITIGATION, AND WE URGE THE CONGRESS AND THE SUBCOMMITTEE TO EXERCISE CAREFUL JUDGMENT IN DETERMINING WHAT LEVELS OF CONTROLS AND OF RESOURCE COMMITMENT ARE APPROPRIATE IN ADDRESSING THIS ISSUE. AS IN OTHER AREAS, IT IS IMPORTANT THAT LOCAL WATER QUALITY CONDITIONS AND SCIENTIFIC STANDARDS BE USED IN SETTING MITIGATION AND CONTROL REQUIREMENTS, AND THAT LOCAL FLEXIBILITY IN MEETING THESE STANDARDS BE PROMOTED AND ENCOURAGED TO FACILITATE THE DEVELOPMENT OF COST-EFFECTIVE LOCAL APPROACHES TO OVERALL CSO IMPROVEMENTS.

GREAT LAKES ISSUES. EPA IS EXPECTED SOON TO PUBLISH LENGTHY AND COMPLEX GUIDANCE FOR THE GREAT LAKES WATER QUALITY INITIATIVE, TO CONTINUE THE SIGNIFICANT AND ONGOING PROGRESS WHICH HAS BEEN MADE IN IMPROVING AND PROTECTING WATER QUALITY IN THE GREAT LAKES. AS WITH OTHER ASPECTS OF THE CLEAN WATER ACT, CAPITAL-INTENSIVE PROJECT REQUIREMENTS AND NON-COST-EFFECTIVE APPROACHES ON MITIGATION OPTIONS CANNOT SUBSTITUTE FOR SCIENTIFICALLY SOUND WATER QUALITY CRITERIA AND A COMPREHENSIVE APPROACH TO POLLUTION CONTROL AND MITIGATION IN MAKING FURTHER PROGRESS IN THE GREAT LAKES. WE HOPE EPA WILL WORK WITH MAYORS IN THE REGION AND THIS SUBCOMMITTEE FOR A WORKABLE GREAT LAKES APPROACH.

A REINVIGORATED PARTNERSHIP FOR ENVIRONMENTAL PROGRESS

FINALLY, MR. CHAIRMAN TOO OFTEN CITIES AND OTHER LOCAL GOVERNMENTS ARE SEEN BY EPA ONLY AS PART OF "THE REGULATED COMMUNITY" AND NOT AS FULL, PROFESSIONAL PARTICIPANTS IN ACHIEVING THE ENVIRONMENTAL PROGRESS WE ALL SEEK TO ASSURE. I AM HOPEFUL THAT BY DEVELOPING AND IMPLEMENTING SUCH INITIATIVES AS THE WATERSHED MANAGEMENT APPROACH TO WATER QUALITY PROTECTION AND ENHANCEMENT THAT FEDERAL, STATE AND LOCAL GOVERNMENTS CAN PUT INTO PRACTICE THE KIND OF PARTNERSHIP THAT I BELIEVE IS NECESSARY TO ASSURE FURTHER PROGRESS AND AVOID THE DIVERSION AND WASTE OF VALUABLE RESOURCES IN PUNITIVE SANCTIONS IMPOSED BY THE FEDERAL OR STATE LEVELS AGAINST LOCAL IMPLEMENTORS WHEN ALL ARE FACING INTENSE RESOURCE PRESSURES.

FRANKLY, MR. CHAIRMAN, EPA DOES NOT HAVE AS GOOD A RELATIONSHIP WITH MAYORS ACROSS THE COUNTRY AS WOULD BE DESIRED. THIS IS BASED LARGELY ON A LACK OF EFFORT ON ITS PART TO SEEK A PARTNERSHIP WITH ELECTED LOCAL LEADERS TO SOLVE ENVIRONMENTAL PROBLEMS.

I WOULD LIKE THIS SUBCOMMITTEE TO CONSIDER AUTHORIZING EPA TO CREATE MODELS FOR LOCAL ENVIRONMENTAL MANAGEMENT ACTION PROGRAMS WHICH WOULD DEMONSTRATE METHODS BY WHICH EPA AND CITIES COULD WORK TOGETHER EFFECTIVELY AND COMPREHENSIVELY TO SOLVE PROBLEMS. WE NEED THEIR TECHNICAL ASSISTANCE, EXPERTISE AND FUNDING, NOT JUST THE REGULATORY ENFORCEMENT SCHEMES THEY HAVE FOCUSED ON OVER THE YEARS. YOU WILL DO THE NATION'S CITIES A GREAT SERVICE IF YOU WILL HELP US IN THAT REGARD DURING THIS REAUTHORIZATION PROCESS.

MR. CHAIRMAN, THREE POINTS IN SUMMARY: (1) WE THANK YOU FOR EFFORTS TO DATE AND URGE THAT A BETTER FUNDED AND MORE FLEXIBLE PROGRAM BE THE HALLMARK OF THE CLEAN WATER ACT IN THE FUTURE; (2) WE MUST GET A HANDLE ON THE REGULATORY PROCESS TO MAKE IT MORE SENSIBLE AND THE GOALS OF THE ACT MORE ACHIEVABLE; AND 3) EPA MUST WORK BETTER WITH CITIES IN THE PERIOD AHEAD.

I KNOW THIS SUBCOMMITTEE IS COMMITTED TO THAT GOAL, AS IS THE PRESIDENT AND THE EPA ADMINISTRATOR. WE LOOK FORWARD TO WORKING WITH YOU TO ACHIEVE THESE GOALS. THANK YOU FOR THE OPPORTUNITY THIS MORNING AND I LOOK FORWARD TO YOUR QUESTIONS AND DISCUSSION.



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Statement of the  
California Association of Sanitation Agencies  
before the  
Subcommittee on Water Resources and Environment  
Committee on Public Works and Transportation  
U.S. House of Representatives

on

Reauthorization of the Clean Water Act

April 1, 1993

Testimony Presented by

Anne W. Dunihue  
Director  
Chino Basin Municipal Water District  
Rancho Cucamonga, California

Mr. Chairman and Members of the Subcommittee, I am Anne W. Dunihue, a publicly-elected Director of the Chino Basin Municipal Water District of Rancho Cucamonga, California. I am here today as President of the California Association of Sanitation Agencies (CASA).

CASA is a statewide association of 90 wastewater treatment agencies that collectively serve more than 15 million people throughout the State of California, over half the sewered districts in the State.

Members of CASA have a long history of providing wastewater treatment needs for the State's residential, commercial, and industrial facilities that dates back to 1957. Most recently, many of our members have begun providing water reclamation services as part of pollution prevention initiatives and to improve on water conservation measures. Since 1972, when Congress passed the Clean Water Act, and most recently the Federal Water Pollution Control Act of 1987, CASA agencies have endeavored to work with EPA and affected industries to implement the requirements of this law. Thus, we are pleased to have the opportunity to present our insights to this Subcommittee and recommend revisions to the present clean water policy which we believe will promote sound water pollution control policies into the next century.

CASA believes a number of clean water policy issues are ripe for the Subcommittee's review and revision, but in the limited time available I will target the following matters:

- The control of pollution that relies on a top-down, "command and control" approach instead of a comprehensive watershed management approach in which contributions of pollutants from all sources can be measured and the most cost-effective means are employed to reduce those pollutants to a level where receiving water quality standards are met.
- The renewal and commitment of adequate State Revolving Loan Fund (SRF) authorizations to ensure the continuation of a strong federal-state-local partnership that addresses important clean water needs.
- The revision of the SRF allocation formula to ensure that federal SRF funding is provided to states based on population growth needs, in addition to other important criteria, that ensures equitable distribution of federal assistance.
- The identification of new priorities for point source SRF funding based on watershed planning, including pollution prevention projects like wastewater reclamation.

Watershed Management and the Importance of Addressing Site Specific Concerns to Provide Maximum Environmental Benefits

Enhancement of water quality and water resources to meet national goals through the end of the decade requires a policy and programs that differ from those of past decades. In the 1970s, national efforts focused on controlling conventional pollutants through the application of technology-based standards on point sources of discharges. As a result, we have benefited from major improvements in the quality of wastewater discharged from publicly owned treatment works (POTWs) and direct dischargers that has significantly improved the quality of our nation's lakes, rivers, streams and coastal waters.

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During the 1980's, water pollution policy shifted from controlling conventional pollutants to controlling toxic pollutants. Once again, this policy shift targeted point sources. It began with EPA developing pretreatment standards that direct and indirect discharging industries were required to meet. National pretreatment standards were supplemented by local limits for toxic pollutants imposed by POTWs on indirect discharging industries in an effort to ensure the integrity of the POTW as well as the receiving waters. For the most part, these standards were technology-based controls. Reporting data illustrate that these controls were very successful in reducing toxic pollutants discharged from point sources.

The Federal Water Pollution Control Act of 1987 heralded a significant change in water pollution control mandates. It moved away from a technology-based approach to a water quality-based control policy. The 1987 Act required states to adopt water quality standards for receiving waters that would further ratchet down on toxic pollutant discharges. Known as the "command and control" approach, the 1987 Act provides no flexibility to address region-specific water quality problems.

CASA believes that a national approach that directs states to implement innovative solutions to site-specific water quality problems is needed. Such an approach would address all pollution contributors--not just point sources. This is especially relevant to the standard-setting process. More than five years since the 1987 Act was passed, a number of states still do not have EPA-approved water quality standards. California is one of these states. CASA urges that current law should be changed to address the problems inherent in developing effective and relevant toxic pollutant standards by:

- Requiring regular, independent peer review of national water quality criteria to ensure their applicability and technical and scientific relevance.
- Providing states with primacy to develop and implement standards that provide for the highest beneficial use and environmental quality that is reasonably attainable. Water quality standards should reflect the use and value of each water body, taking into account site-specific characteristics. The technological capability and risk reduction benefits of achieving a given level of environmental quality must also be considered.
- Giving states explicit authority to develop innovative water quality-based permit requirements on a watershed basis that recognize the multi-source nature of pollution (point, nonpoint and atmospheric) and the cross-media impacts that may result from controls.

In general, standards should be based on empirical site-specific studies and monitoring to guarantee that all water pollution mandates are relevant and provide a reasonable benefit for the costs incurred. During these times of limited public and private resources, nothing less will meet the challenge of doing more with less. The stakes are high. As a recent series of articles in the *New York Times* illustrates, policymaking on the basis of public perception, instead of sound science, is costly and can lead to greater environmental and human health threats. Significant improvement in water quality

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will only occur through a rigorous, risk-based analysis that leads to setting clean water priorities within each watershed.

A watershed management approach is the preferred alternative for several important reasons:

- It will permit water pollution threats to be considered on a region-wide basis instead of on an artificial jurisdiction or point source basis.
- It offers the opportunity for all interested parties to work in a collegial manner to identify priorities and develop relevant and appropriate responses to pollution sources, thereby minimizing noncompliance because of disputes over recommended standards.
- It offers the chance for public efforts that will target real threats. For example, in California, and we suspect elsewhere, statewide water quality plans require significant expenditures of public funds, yet water quality objectives will not be achieved. This is the case because of the fact that the so-called plans are not plans at all. They are actually lists of numerical water quality standards without an accompanying implementation strategy. The standards were adopted in the face of EPA deadlines without regard to attainability.

During the past two years, CASA has worked with a number of groups to seek a consensus on the importance of developing a watershed management approach to achieve clean water mandates. More than one thousand people from all walks of life attended last week's national conference on watershed management "Watershed '93", attesting to the broad-based agreement that a holistic approach to water quality improvement must replace the current command and control approach. While differences may arise on how best to design a watershed management program, it seems clear that most interested parties would agree that it makes no sense to require compliance with numeric standards (or effluent limits in permits) until all pollution sources are addressed in a coherent plan.

We urge you and your colleagues to re-examine the fundamental underpinnings of clean water policy to ensure that control of water pollution is mandated in a manner that recognizes the complicated nature of water resources protection.

The ongoing efforts to address toxics in the San Francisco Bay area provide a good example of how the existing "command and control" approach fails the public need for clean water. Since 1960, San Francisco Bay area POTWs have spent more than \$3 billion to upgrade wastewater treatment systems. These improvements have resulted in 95% removal of conventional pollutants. Pretreatment programs and local limits have further reduced toxic discharges. Today, POTWs and industrial dischargers contribute less than 15% of the total metals discharged to the Bay. Despite these small loadings, the City of Palo Alto will need to spend more than \$100 million to build lime treatment and reverse osmosis facilities to remove metals in the 23 million gallon per day (MGD) to meet State water quality standards. Annual operating costs for these facilities are estimated at \$21 million. This tremendous capital investment would result in an annual reduction of 202 pounds of copper in the plant's wastewater discharge. Looked at another way, this represents a 0.0002%

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reduction in the 600 tons of copper that enter the Bay each year.

Other Bay Area POTWs estimate that costs to comply with water quality-based metals limits requiring similar treatment technology will come to \$1 million per day for each 1 MGD of treated wastewater, or as much as \$1.1 billion per year. This problem is not unique to California. Other communities face similar control requirements.

These examples illustrate the substantial costs local communities will incur to meet permit limits derived from EPA water quality criteria, regardless of the net effect on receiving water quality. CASA agencies have always accepted the responsibility to implement such standards but only when justified by environmental gains and water quality improvement. The current mandates do not pass this test. Perhaps more important, the mandates would not, if implemented, provide the intended benefit to the overall Bay Area water quality and the related habitat.

For example, California's State Water Resources Control Board has estimated that POTWs and other point source dischargers contribute less than 3% of the total pollutant loadings to the Bay. Alternatively, riverine, urban, and non urban run-off contribute approximately 16%, 58%, and 19% respectively. If all industrial and municipal dischargers achieved the goal of "zero discharge" this would result in a less than 310 ton reduction out of total annual pollutant loadings of 9,600 tons.

If we continue to target minor contributors, we will create serious secondary threats in addition to ignoring the real water pollution threats. Additional POTW control requirements such as lime and reverse osmosis treatments will result in creation of substantial quantities of lime sludge and brine that must be disposed. One California POTW, San Jose/Santa Clara, would produce 450 tons of additional sludge from 125 MGD of treated wastewater per day. At a time of diminishing land disposal capacity and concern that we redouble pollution prevention activities, we question the logic of requiring treatment that will provide negligible water quality improvement and exacerbate the landfill disposal capacity crisis.

These examples demonstrate the importance of targeting comprehensive watershed control efforts using risk-based priorities. Water quality in San Francisco Bay will not be served by requiring traditional point source discharges to augment their wastewater treatment capabilities with expensive new technologies. If we redirect our energies to monitor and control pollutant loadings from nonpoint sources, in addition to traditional point sources, our national effort to protect and enhance water quality will return greater benefits. However, nonpoint source pollution does not easily lend itself to control through national standards. The control of pollutant loadings from sources such as combined sewer overflows (CSOs), stormwater discharges and non-urban runoff must be implemented as part of a comprehensive watershed approach. The physical, chemical and toxicological nature of such discharges is highly site- and discharge-specific. The unique character of these discharges relates to variations in population size and density, geology, topography, and land use, as well as the flow characteristics and design of the collection system.

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In areas of California and the arid west, POTWs will be required to incorporate new and very costly technologies to treat wastewater discharged into water bodies composed wholly or substantially of wastewater effluent. Applying nationwide or statewide water quality standards to these effluent-dependent streams will result in tremendous public expenditure without a commensurate environmental benefit to the community.

For example, it will cost a single POTW discharging into the Santa Ana River in Southern California \$110 million to remove ammonia from its effluent. This additional treatment will result in a 73% increase in the local community's wastewater rates. Curiously, this removal effort is intended to protect the estimated 2,600 adult mosquito fish that are planted for mosquito larvae abatement in the 8 to 10 mile river segment below dischargers. Keeping in mind that there are no native fish in the river because of the physical limitations of the habitat, the question must be asked; what does this treatment cost mean to the average ratepayer? Simply, the cost to remove ammonia is estimated at \$37,000 per fish or about \$19 million per pound of fish.

This cost is clearly out of line. The alternative to this advanced treatment is for the discharger to divert the wastewater to pipeline for conveyance to other downstream users for additional treatment or pipe it directly into the ocean and not discharge it into the river. This would deprive the river, normally a dry river bed, of its only water source, eliminating the mosquito fish's habitat. Watershed management, if applied to this situation, could address this important balancing consideration.

Other examples of inappropriate application of federal water quality criteria include sewage evaporation ponds, agricultural drains, and stormwater collection channels. EPA Region 9 has stated that these are "waters" of the United States and furthermore should be designated as fishable and swimmable. EPA Region 9 has also stated flatly that economics cannot be considered in setting water quality criteria.

CASA believes that this is not what Congress intended when it passed the Clean Water Act. We hope that Congress will clarify its intent on these issues and direct that watershed management is the appropriate mechanism to address such environmental matters.

The above circumstances are only a selection of examples that exist throughout California. For years, California has been in the vanguard of clean water policy development and implementation. CASA is proud of this. Today, however, we fear that we are experiencing the implementation of clean water policy that is unconnected with the available resources. Therefore, seizing upon our leadership role of the past, CASA proposes a series of specifics to serve as the basis of a watershed management policy.

**Specifications for Watershed Management Plans to Achieve Water Quality Goals and Objectives**

A number of legislative options have been drafted over the past year to address the deficiencies of the current water quality-based approach to improvement. CASA has worked on many of these efforts and supports their intent to redefine how the country establishes its clean water priorities.

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CASA acknowledges that policymaking is an iterative process. Therefore, I would like to identify some key guidelines or principles that CASA hopes the Subcommittee will follow as it considers a watershed management policy:

1. Watershed Management Objective:

Develop a feasible and cost-effective program to achieve water quality standards throughout the watersheds of a state. These planning programs would be initiated in all watersheds where water quality standards are not being met.

2. Program Timing:

Watershed management planning would be completed within 5 years of the time resources are committed to begin the planning process.

3. Interim Clean Water Regulatory Policy:

Until watershed management planning is completed and appropriate and relevant water quality-based effluent limits have been developed, Congress must declare that it is the general policy to defer imposing water quality-based effluent limits into waste discharge requirements.

4. Preventing Continuing Violations of Water Quality Standards:

Pending implementation of a watershed management program, a state or EPA could require a discharger contributing to a violation of water quality standards to implement source reduction programs that reduce pollutants to the maximum extent practicable.

5. Watershed Management Planning Program Elements:

Any watershed management program should include, at a minimum, the following elements to ensure that equitable and comprehensive mandates are developed.

- A. Review of Pollutants--Based on existing information, identify those pollutants in each watershed that may be interfering with the attainment of current water quality standards.
- B. Survey of Pollutant Sources--Based on existing information, identify all significant point and nonpoint pollutant sources that may be contributing to violation of water quality standards.
- C. Monitoring--Based on the information obtained from the review of pollutants and the survey of sources, a multi-year monitoring program would be designed and implemented to characterize existing conditions and the significant sources of

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pollutants. This characterization would provide information on water column concentrations, sediment conditions, habitat, and biological resources to assess the degree to which beneficial uses are impaired and water quality standards are attained. This characterization of pollutant sources is to include adequate information to determine the effect of sources of pollutants on water quality and sediment conditions.

- D. Identification of Problems--Based on monitoring programs and the most accurate methods available for assessing compliance, waterbodies would be identified that are in noncompliance and to which standards are violated.
- E. Site-Specific Water Quality Standards--For each waterbody found to be in noncompliance, development of site-specific water quality standards would be initiated. Such a plan would comply with the Clean Water Act and applicable state law.
- F. Wasteload Allocation--For each waterbody for which a water quality objective is not achieved, a state or EPA would establish a total maximum daily load (TMDL), a wasteload allocation (WLA) for point sources, and a load allocation (LA) for nonpoint sources. These limitations will be achieved throughout the waterbody. In major, complex watersheds, predictive models are to be relied on when setting wasteload allocations. WLA's and LA's should be based on a consideration of alternative control technologies available for each significant pollutant source contributing to the violation, economic and social effects, and cross-media environmental impacts. They shall be derived so as to ensure that cost to the public will be the lowest net cost without detriment to the environment.
- G. Watershed Program Implementation--The program would require compliance with agreed-upon measures within ten years from the date of a plan's adoption and include a schedule with important milestones to ensure timely implementation and compliance. The implementation plan must be feasible, taking into account institutional, technological, financial, regulatory, and socioeconomic constraints. The implementation plan must include a description of additional treatment facilities and controls and the costs to each source or category of sources that are required to meet standards.

As I noted, these are only suggested principles by which Congress can develop sound public policy that will address all sources of pollution in a watershed within a reasonable timeframe, consistent with current Clean Water Act requirements.

Watershed management addresses the technical issues behind our efforts to restore the ecosystem. Funding ongoing clean water mandates to ensure adequate wastewater treatment and pollution prevention initiatives is no less important.

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### Funding Clean Water Facilities

Since the 1987 amendments, Congress has funded construction assistance for wastewater treatment facilities through the State Revolving Loan Fund (SRF) program. CASA supported this transition from the traditional grants program during debate on the 1987 Act. It was our hope that a strong commitment to the SRF program would be realized. With President Clinton's support of an additional \$845 million in SRF assistance in 1993, the SRF program authorization will have been met. However, meeting statutory obligations and actual needs are two different matters.

CASA has testified a number of times before this Subcommittee on the importance of funding California's and the nation's clean water infrastructure needs. California's funding needs are conservatively set at \$5 billion and estimates of total need beyond the decade far exceed this figure. Nationwide funding needs exceed \$110 billion. Continued federal support of the SRF program is critical for two primary reasons. First, it creates jobs both in the short-term through construction of facilities and in the long-term by providing the capability to accommodate residential, commercial and industrial growth, strengthening the local, state and federal tax bases. Second, the construction of these facilities directly benefits the environment by restoring habitat and preserving gains made in the past. Therefore, CASA strongly urges the Subcommittee to continue the SRF program and expand both funding levels and eligible uses of funds.

Recently, some groups have advocated a return to the traditional grants program. CASA maintains its support for the SRF, especially in light of what appears to be an unending string of austere federal budgets. However, our experience leads us to conclude that some special treatment should be considered for small communities and disadvantaged areas that are unable to shoulder the financial burdens imposed by the SRF program. Ignoring these real obstacles will only devalue investments made elsewhere. Therefore, CASA urges the Subcommittee to develop provisions that would permit direct grant assistance to small, disadvantaged communities which would otherwise be unable to secure SRF funding.

The Administration's preliminary economic plan identifies its intention to create a new SRF program in 1995. This is based on the concept that the current program expires in 1994. On April 5, we will learn more about the coming year when the Administration releases its budget revisions for 1994. The Administration proposes to provide \$2 billion per year to the SRF through 1997. CASA believes this commitment is a good start. Nonetheless, we take exception to this funding level and believe that a minimum of \$5 billion per year should be made available. This would be a return to historical funding levels. If we as a nation are requiring compliance with increasingly stringent federal water pollution standards, then the federal government has an equal responsibility to assist us in meeting these mandates. Only through a reasonable funding program can this be realized.

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In addition to providing adequate federal assistance, CASA also recommends that the Subcommittee take the following steps:

- Specifically authorize SRF funding to support priority pollution prevention projects such as wastewater reclamation.
- Revise the federal allocation formula used to allocate assistance to the states. Any formula must take into account population growth in addition to water quality needs.
- Clarify that point source pollution control construction assistance continues to be the priority unless a watershed management plan containing mutually acceptable alternatives such as estuarine protection, nonpoint sources abatement, or other activities is adopted.

As you contemplate revisions to the SRF program, CASA encourages you to consider assigning new priorities for use of these funds. In the past, SRF assistance has been targeted to support compliance with secondary treatment needs. As these needs are met, Congress should consider how to best redirect available assistance. A key criterion should be pollution prevention. Future SRF assistance should support projects that meet this standard. One of the most promising pollution prevention programs involves wastewater reclamation. In California, wastewater reclamation projects are being designed to meet the growing demands of increasing State population. Wastewater reclamation projects help to relieve this pressure and provide environmental benefit by reusing treated wastewater, minimizing the need to draw down already limited water supplies needed to support environmental habitat.

Finally, CASA would like to address the Administration's proposal to create a drinking water SRF program that would assist municipal compliance with Safe Drinking Water Act requirements. Many CASA agencies perform dual services, providing wastewater treatment and drinking water supply. We therefore appreciate the Administration's acknowledgment that compliance with drinking water technology mandates can be especially burdensome. Federal assistance to drinking water suppliers would mark a milestone in the federal-local partnership which is long overdue. CASA supports the Administration's commitment in this area.

Nonetheless, we are deeply concerned that we avoid the trap of robbing Paul to pay Peter. Any drinking water SRF program must stand on its own merits. Limiting wastewater SRF funding would devastate the progress made to date. Therefore, while we encourage this new federal partnership, we hope that its funding will be secured without sacrifices from the wastewater community. As I noted earlier, California alone has more than \$5 billion in wastewater construction needs that are eligible for federal SRF assistance.

Mr. Chairman, there are number of other clean water issues that concern CASA, including retention of the domestic sewage exclusion, requirements to control stormwater and CSO's through costly technology-based standards, and limits to interstate transport of solid waste that could inadvertently include sewage sludge, which is stringently regulated under the Clean Water Act. CASA looks

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forward to working with you and the Committee to ensure that renewal of the Clean Water Act also addresses these important issues.

Mr. Chairman, this concludes my testimony. I would be pleased to answer any questions you or your colleagues may have. Again, CASA appreciates the opportunity you have extended us to participate in this important endeavor.



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**Statement by**

**ADRIAN P. FREUND, AICP**

**on behalf of the**

**AMERICAN PLANNING ASSOCIATION**

**before a hearing of the**

**SUBCOMMITTEE ON WATER RESOURCES**

**of the**

**COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION**

**U.S. HOUSE OF REPRESENTATIVES**

**on**

**REAUTHORIZATION OF THE FEDERAL WATER POLLUTION  
CONTROL ACT**

**APRIL 1, 1993**

Chairman Applegate and distinguished members of the Subcommittee on Water Resources of the House Committee on Public Works and Transportation. I am Adrian Freund, Director of the Louisville-Jefferson County Department of Planning and Environmental Management in Louisville, Kentucky. Prior to assuming my present position in July 1992, I served as Chief of Water Management for the Connecticut Department of Environmental Protection. I have 21 years of experience in urban and regional planning, environmental planning and environmental management, with a concentration in water quality management. I hold a Bachelor's degree in Urban and Regional Planning from the University of Illinois.

On behalf of the American Planning Association (APA), I am here today to present the Association's views on reauthorization of the Clean Water Act. I respectfully request that the complete text of my statement be included in the official hearing record.

APA is a national public interest and professional organization consisting of public and private planners, elected and appointed officials at all levels of government, as well as educators, students and interested citizens. Our 28,000 members belong to 45 chapters covering every state and Congressional district.

APA was formed in 1978 when the American Institute of Planners, established in 1917, and the American Society of Planning Officials, founded in 1934, were consolidated. The Association's primary objective is to advance the art and science of planning for the improved development of the nation and its communities, states and regions, as well as to preserve its valuable natural resources. Within APA is the American Institute of Certified Planners (AICP) which focuses on professional

development.

The American Planning Association and its 28,000 members have a great interest in the wise protection of our nation's water resources. Our testimony is based, in part, on APA's adopted policy on Environmental Quality. APA has also developed policies on: Comprehensive Surface Water Management, Groundwater Quality and Quantity Protection; and Wetlands. APA's policy on Environmental Quality seeks to achieve:

- **the conservation of non-renewable resources – such as mineral, petroleum and agricultural lands – and the protection of renewable natural resources, such as surface and groundwater, air, topsoil, forests, and fisheries from further degradation or destruction.**
- **the integration of environmental protection and environmental policies and programs into comprehensive and functional planning and implementation programs at all levels of government throughout the nation.**
- **special protection for sensitive areas: wetlands; floodplains; areas supporting unique or endangered plant and animal species; sites of special scenic, historical, and archaeological significance; and lands or waters that would lose their value or be permanently impaired by human changes.**

Specifically, in relation to water, APA's adopted policies include the following provisions:

**1. Areawide planning and implementation of water quality management and water supply are critical.** Federal funds should be provided to regularly update areawide plans. Because waters are not confined by local, state, or national boundaries, purely

local efforts to improve water quality and/or supply are ineffective.

**2. Federal funding for the construction and upgrading of publicly owned wastewater treatment plants must be continued.** Publicly owned plants often support new growth and development and their construction provides jobs. Unlike scattered, private wastewater plants, public facilities often reinforce centralized growth and infill and prevent urban sprawl and water quality degradation. Furthermore, Federal construction funds should be consistent with areawide water quality plans which stipulate that any new growth and development to be served is necessary and environmentally sensitive.

**3. Data collection and analysis of existing conditions should be supported by federal funds.** There can be no sound decision on how to maintain and enhance water quality and supply without adequate data collection and analysis. Locally funded monitoring programs fail due to competition for scarce resources.

**4. Federal funds should be available to small and financially-strapped communities to avoid geographic inequities and to prevent economic hardship.** Areas of the nation with exceptionally sensitive bodies of water, large concentrations of waste-producing industry, or large low-income populations should not suffer diminished environmental quality because of an inability to pay.

**5. Research on the effects and magnitude of nonpoint source pollution and the effectiveness of control strategies should be continued.** The Section 319 program should be expanded beyond demonstration. Integrated watershed planning approaches to point and nonpoint source control should be promoted. Proposed projects and land use

activities should be evaluated for their contribution to nonpoint source pollution; and efforts to minimize adverse effects should be encouraged.

### A Planning Perspective on the Clean Water Act

Two years ago, the American Planning Association came before your Subcommittee to present a planning perspective on the Clean Water Act reauthorization. In our testimony, we stressed four basic premises that underlie our positions on the Clean Water Act and our adopted policies on water management. Those premises, equally valid today, are:

**1. Water quality is fundamentally related to land use and land management.**

The business of planners and planning is to apply foresight to the way land is used and managed. Increasingly, environmental protection is an integral part of the process of developing comprehensive plans at all levels of government. Our communities' use of land directly impacts water quality. Some impacts come from point sources while others come from broadly dispersed or "nonpoint" sources. Land use planning is undertaken by nearly all units of government and used to establish the basis for zoning and development regulations. Increasingly, infrastructure investments in wastewater facilities are used as a tool to help shape and guide urban growth and reduce the negative impacts of urbanization on water quality.

**2. Efforts to clean up polluted water require extensive capital investments.**

Long-range capital planning of at least five to six years is needed at every level of government. Stable funding of infrastructure programs at the federal level is essential to

secure large and stable capital commitments from state and local governments.

The benefits of local and regional clean water accrue to the nation as a whole. Financing of water management facilities and programs is a federal as well as local and state responsibility. The state revolving fund (SRF) program has been highly successful in stimulating the construction of new facilities to attack water pollution. Without the SRF, state and local governments could not afford to make the massive investments required to achieve water quality standards. The 1987 Clean Water Act Amendments introduced nonpoint sources, combined sewer overflows, sludge management, stormwater and toxics as new needs to be addressed by the states. Addressing these problems will require large new capital investments throughout the next two decades. Stable federal funding is essential.

**3. Water quality and water quantity are directly interrelated. Water quality is irrevocably tied to the amount of clean water available for drinking, industrial and agricultural uses.**

Polluted water is not readily available for drinking and must often be subjected to costly treatment processes to make it suitable even for industrial and other uses. Since surface and groundwater are closely interrelated, the quality and quantity of groundwater can directly impact surface water as springs feed the streams and rivers, especially in time of drought. Surface and groundwater withdrawals for consumptive use reduce flows in rivers and streams and may seriously compromise the achievement of aquatic life and recreational use goals in large areas of the nation.

**4. Wetlands in their natural state perform ecological functions that are impossible or**

costly to replace and are vitally important to the environment and economic health of the nation.

Wetlands protect the quality of surface waters by retarding the erosive forces of moving water, and by intercepting and reducing waterborne sediments, excess nutrients, heavy metals and other pollutants. Several states in our nation have developed outstanding wetland protection programs that recognize the critical functions that wetlands play in maintaining water quality and providing habitat for wetland dependent and transitional plant and animal species. Wetlands protection is a fundamental land use management function in which the federal government must provide leadership. State and local governments must play supporting roles.

Last year, APA came before this Subcommittee to testify on the merits of H.R. 5070, the "DeLauro-Lowey Water Pollution Control and Estuary Restoration Financing Act." In our testimony, we noted that the outstanding work of your esteemed colleagues offered an opportunity to better integrate planning and development decisions at an ecosystem or "bioregional" level. Commenting on the work of Representatives DeLauro and Lowey in a recent letter to APA, Majority Whip David E. Bonior noted that the "Congresswomen...recognized early that careful planning can help to maximize the environmental and economic benefits of expenditures on environmental infrastructure." Congressman Bonior, commenting on Congresswomen DeLauro and Lowey's recent efforts to develop a strategy for expediting infrastructure funding, notes that the proposal "will focus on giving priority to projects that emerge from sound planning

efforts."

President Clinton's budget contains a major economic stimulus package that focuses on infrastructure investments as a way to create jobs, promote economic development and meet environmental goals. Those projects that are "ready to go" under the administration's program will undoubtedly be the same projects that have benefited from careful planning.

### The Merits of a Watershed Planning Approach

There are many signs that the benefits of sound planning are becoming more widely recognized. The National Estuary Program requires "Comprehensive Conservation and Management Plans" as a basis for making decisions about investments and regulatory programs that are needed to clean up waters of special national significance. Under Section 319 of the Clean Water Act, states create nonpoint source management plans to establish priorities for investments in best management practices, land management programs and land use initiatives. Wastewater facilities plans have been part of the clean water vocabulary since the 1970's.

Throughout America, hundreds of watersheds provide examples of the application of planning approaches to watershed and water quality management. I have developed watershed programs in places as diverse as Austin, Texas; Madison, Wisconsin and the State of Connecticut. In my own area of Louisville and Jefferson County, Kentucky, a unique and sensitive watershed known as Floyds Fork has been protected from the pressures of urbanization. The Floyds Fork Program was led by David Armstrong,

County Judge/Executive and uses zoning and development standards and policies to protect the character of the watershed and prevent water quality degradation.

In 1991, the State of North Carolina's developed a Whole Basin Approach to Water Quality Management. Throughout 1991 and 1992, state water managers, water interest groups, APA and several federal agencies began to focus upon the concept of a watershed basis or basin approach to water quality management as a new organizing framework for the Clean Water Act. Last week, over 900 persons participated in an EPA conference on the subject of watershed planning and management. Sound, integrated planning of ecosystems or "bioregions" is at the heart of the watershed approach.

The American Planning Association has developed a conceptual framework for a watershed approach to clean water (copy attached) and strongly supports the concept as an effective tool to coordinate and integrate the many programs required by the Clean Water Act. National Pollutant Discharge Elimination Systems (NPDES) permitting, monitoring, water quality modeling, nonpoint source assessment, waste load allocation, best management practices and planning requirements can be integrated throughout a watershed. Water quality and aquatic resources can be assessed simultaneously throughout an entire river basin.

The benefits of whole basin or watershed planning and management fall into three major categories: (1) improved program efficiency, (2) increased clean water program effectiveness, and (3) consistency and equitability. By focusing on specific areas of concern each year, monitoring, modeling, and permitting efforts can be focused; as a

result, more can be achieved for a given level of funding and resource allocation. The whole basin approach is consistent with basic ecological principles of watershed management, leading to more effective water quality assessment and management. Linkages between aquatic and terrestrial systems are addressed (e.g., contributions from nonpoint sources) and all inputs to aquatic systems, and potential interactive effects are considered.

Watershed management will facilitate the incorporation of nonpoint source pollution assessment and controls, since these diffuse pollutant sources extend to the watershed boundaries and accumulate from a basin's headwaters to its mouth. Watershed plans will provide a focus for management decisions. By clearly defining long-term goals and approaches, these plans will encourage consistent decision-making. Consistency, together with greater attention to long-range planning, in turn will promote a more equitable distribution of the assimilative capacity of a water body, explicitly addressing the trade-offs among pollutant sources (point and nonpoint) and allowances for future growth.

North Carolina is but one of many states that are exploring or have implemented watershed-based water quality management programs. Currently, many of the Clean Water Act requirements for reporting and planning can be satisfied through a whole basin or watershed management approach. **Some of the Clean Water Act requirements that could be more effectively addressed through a whole basin approach include:**

- Section 302 -- Water Quality based effluent limits. Under a watershed approach, alternative effluent control strategies could include approaches

such as assimilative capacity "banking."

- Section 304(1) -- Impaired Waters. A watershed approach would include a comprehensive analysis of all the inputs to a watershed that may cause degradation. More objective priority setting and improved management strategies are the benefits.
- Section 305(b) -- Water Quality Inventory. A comprehensive assessment of water quality in each watershed is generated through a whole basin approach.

Sections 201, 303 and 319 of the Clean Water Act require or strongly encourage a watershed approach to water quality management. However, a piecemeal approach to implementation of the Act, a fragmented approach to funding and grants and a variety of separate reporting requirements have discouraged states and localities from pursuing integrated watershed-wide approaches.

It is the position of the American Planning Association that barriers to carrying out watershed-based planning should be identified by Congress and removed during the reauthorization process.

#### Additional Recommendations for the Reauthorization

The American Planning Association has developed several additional recommendations for the reauthorization.

1. The planning process for controlling nonpoint source pollution needs to be improved.

We recommend consistency between local land use plans and state water quality plans including nonpoint source reduction. The federal nonpoint source program must shift its emphasis from demonstration to long term management of nonpoint sources.

The Clean Water Act should require that localities receiving or qualifying for federal assistance establish a nonpoint source management strategy. The statewide (Section 319) nonpoint source plans should reflect participation by regional planning agencies and local government in nonpoint source planning. The Act should either set forth in detail the criteria that the Environmental Protection Agency (EPA) must use in certifying that a state plan is adequate, or require EPA to promulgate regulations setting forth such detailed criteria. The program could follow the model established by the requirement for a coastal area water quality element in the Coastal Zone Management Act.

States should require regional agencies and local governments to certify that their existing plans are consistent with state nonpoint source management plans, or require regional and local governments to prepare and implement new nonpoint source management plans consistent with the state plan. States should certify to EPA that they have reviewed both regional and local plans and found them consistent with state plans. Consistency of federal projects should be required before capital improvement funds are released for major federal facilities, including federally assisted highway projects.

Congress should appropriate sufficient funds to allow EPA, states, and local governments to successfully administer the nonpoint source control program. Such administration should go beyond the current situation to anticipate meeting future needs.

Grants are also needed so the states and local governments can prepare and implement high quality nonpoint source reduction plans. The Section 319 nonpoint source program should emphasize institutionalizing nonpoint source control, as contrasted with the current focus on demonstration.

2. We support providing opportunities for joint management of ground and surface water supplies and believe that state water plans that address surface and groundwater quality and quantity should be required.

Federal grants are needed to fund research on strategies for joint management of ground and surface water that also integrate principles from the Safe Drinking Water Act. We need to start looking at the resource on an ecosystem basis.

The Clean Water Act should take first steps toward requiring state water plans that address surface and groundwater quality and quantity. The plans should provide for in-stream flow quality and quantity standards for the purpose of preserving and enhancing fish and aquatic life. The revised Act should also contain special provisions for ephemeral and intermittent watercourses with standards appropriately based on the sources of water.

Federal funding for any water project should be approved only when state water plans can demonstrate consistency with other state planning programs such as growth management, clean air and solid waste management. Local wastewater facility plans submitted to the state for funding under the state revolving fund must be consistent with local air, water, solid waste management and growth management plans (where they exist). Local land use planning needs to take into account water quality and quantity.

The plans should guide development to be compatible with protection of recharge areas, conservation of aquatic habitats, surface water quality, stormwater runoff and take into account cumulative and synergistic effects.

**3. The federal government should establish a long-range capital planning budget, at least five to six years in scope, as a basis for appropriating funds to the State Revolving Fund (SRF) for building and upgrading the many public works projects necessary to achieve the objectives of the Clean Water Act.** For communities in economic hardship, additional SRF funds should be made available and payback periods should be extended.

The large unmet need for construction and upgrading of wastewater treatment plants requires additional investment by the federal government in the state revolving fund (SRF). The SRFs must also address new needs such as combined sewer correction, stormwater, nonpoint sources and sludge management. The federal government should give special consideration to assistance for public works projects that are included in adopted local and state capital improvement programs of state and local governments that are linked to longer-term state development plans and local comprehensive plans.

**4. The State Revolving Fund (SRF) program should be continued at least through 1999, with federal capitalization funds of at least \$2 billion annually.** Additional funding comprising a total of \$5 billion annually should be provided as part of an economic stimulus program targeted at infrastructure. The continuation of funding should address the unmet needs included in the 1987 Clean Water Amendments.

The 1987 Clean Water Act Amendments introduced nonpoint sources, combined sewer overflows, sludge management, stormwater and toxics as new capital needs to be

addressed by the states. Continuation of capitalization grant appropriations at the current level of approximately \$2 billion annually through 1999 will allow SRFs to address many of these unmet needs mandated by the 1987 Act. Additional funds should be appropriated and any program that also addresses drinking water needs should be funded at levels of up to \$5 billion.

5. A goal of no overall net-loss of the nation's remaining wetlands resource base as defined by acreage, volume, location, type and function should be adopted. Where feasible, federal legislation should support actions to enhance, restore and create wetlands using a "partnership" approach that incorporates private stewardship and federal, state, and local cooperation.

APA supports language in the new Clean Water Act to protect wetlands and to promote the development of EPA-assisted, funded and approved comprehensive wetland management plans at the state, regional and local levels. These plans must ensure intergovernmental coordination and achieve the no net-loss goal. That also means that federal activities must be consistent with EPA-approved state and local wetland management plans.

We recommend allowing and encouraging states, regional and local government entities to assume responsibility for specific portions of the Section 404 program and other future legislated programs so long as they demonstrate a capacity to further the national goal of no-net loss and adopt approved state wetlands management plans. Local governments should be allowed more direct participation in both the regulation and management of wetlands based upon a clearly defined wetlands inventory and

classification system.

We urge you to establish a comprehensive program that supports tax-based and other financial incentives to encourage landowners, land trusts, states, and local governments to protect wetlands, and provide funds for public and semi-public acquisition of wetlands in full or in part, as appropriate. Planning techniques such as cluster zoning and transfer of development rights and other innovative land use incentives need to be encouraged to accomplish the preservation of wetlands.

The Clean Water Act should encourage states and local governments to establish mitigation banks for unavoidable losses of wetlands. Federally funded projects, especially transportation facilities, including those funded by the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), should be designed to avoid unnecessary wetland losses. Mitigation for unavoidable losses should be eligible for federal funds.

**6. To further the intergovernmental partnership that implements the Clean Water Act, we support adequate federal funding for the states and local governments to carry out and manage significant new mandates.**

States have a key role in the federal Clean Water strategy. States have carried out the basic requirements of the Act for nearly 20 years with considerable progress. Federal support of state program management, however, has dwindled in recent years, and states must now take on new responsibilities for stormwater permitting, nonpoint sources, toxics and other mandates of the 1987 Act.

The management needs of states are estimated to be at least \$700 million annually. Federal appropriations for Section 106 must be dramatically increased from

their current level. Local governments also need more money and support from the federal government so they can carry out their role under the Clean Water Act as well.

#### CONCLUSION

Let me conclude by thanking the Chairman for inviting the American Planning Association to testify before your Subcommittee, thus providing the planning profession an opportunity to share with the Subcommittee our thoughts and expertise on the Clean Water Act. I would also like to recognize the Government Affairs staff of APA here in Washington, D.C. for their fine efforts in focusing greater attention on the importance of sound planning. We believe that the Congress can substantially improve the Clean Water Act by integrating the planning approaches advocated by APA into the Act.

Other recent models, such as the Intermodal Surface Transportation Efficiency Act (ISTEA), demonstrate the merits of a participatory, integrated federal/state/local planning partnership.

I would be more than happy to address any questions you may have.

\* \* \* \*

Attached for the Record: "Watershed Basis for Clean Water," by Dr. Margot Garcia, AICP



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## **Watershed Basis for Clean Water**

**Prepared for the American Planning Association  
 By Margot W. Garcia, PhD, AICP  
 Department of Urban Studies and Planning  
 Virginia Commonwealth University**

**in consultation with Charles Wolfe and Keene Callahan of Robinson & Cole, Hartford, Connecticut and Arlan Colton, State Land Department, Tucson, Arizona.**

Despite massive efforts at point-source pollution control which has resulted in considerable improvement, the rivers and lakes of the United States still are not fishable and swimmable. Non-point source pollution from urban, agricultural and industrial runoff has become the greatest problem. The waterways and wetlands of our nation are an indispensable and irreplaceable but fragile natural resource with which the citizens of the nation have been endowed. These are an interrelated web of nature essential to an adequate supply of surface and groundwater; to hydrological stability and control of flooding and erosion; to the recharge and purification of groundwater; and to the existence of many forms of animal, aquatic and plant life.

The quality of our nation's water is a historical reflection of land uses which requires new and innovative solutions to address the problem. What follows is a conceptual model for watershed based planning and management to reach the nation's goal of the protection of the physical, biological and chemical integrity of our nation's waterways.

### **I. General Assumptions**

- We need to approach this problem from a "systems" point of view, meaning dealing with the complete hydrologic system of precipitation, surface and groundwater, wetlands, lakes and ponds, and estuaries. The systems approach forms one of the references for planning and management.
- The definition of "clean" needs to come from a risk-based analysis.
- With very few exceptions, land use decisions have been historically made at the local level with active and informed citizen participation. This process is strongly supported by citizens.
- Definition and analysis of problems and forecasting of trends needs to be based on the best science available. A basic inventory of ecosystem characteristics and functions is essential as well.
- Water quality and water quantity are interrelated. Upstream activities determine the limits within which downstream activities may be carried out. The quantity of water cannot be divorced from quality for purposes of beneficial use, and

Watershed Basis for Clean Water

quality is conditioned by the quantity available.

-- In order to adopt and implement this "systems" approach, all the parties who will be affected need to be at the table to agree on the definition of the problem and to negotiate the strategies to resolve the issues identified.

-- The Water Resources Planning Act of 1965 by creating a cooperative framework between the federal government, states, local governments and private enterprise established a Federal-State framework to manage and protect river basins. We need to build on that experience.

-- While there is a need to establish institutions based on watershed or ecological boundaries, creating new governmental structures should be avoided. One way to avoid creating new structures is to modify existing ones.

-- The existing point and nonpoint National Pollutant Discharge Elimination System (NPDES) permit system should stay in place. The Section 404 and 401 permits system of the Clean Water Act should be modified. Flexibility of these systems during transition to a watershed-based approach is necessary.

## II. A Conceptual Framework

The watershed systems approach provides the basis to (1) analyze water quality and quantity problems, (2) implement land use and environmental planning strategies to overcome these problems, and (3) monitor the progress and success of the watershed system approach in order to adjust the strategies as needed. To be effective and comprehensive, watershed boundaries would overlay existing political boundaries of states, counties and municipalities. These political jurisdictions within one watershed would need to work together under new institutional arrangements.

The watersheds systems approach is an attempt to achieve the goal of "fishable and swimable" under the Clean Water Act.

The U.S. Geological Survey (USGS) has a system for classifying watersheds as they aggregate into larger systems, which was used in part by the Water Resources Council (WRC). There are 21 river basins in the U.S. which would report to EPA. The "river basins" would form the largest regional areas. Planning and coordinating of watershed plans would occur at this level. They would also be responsible for setting water quality standards and administering the NPDES permit system in accordance with approved watershed plans.

**The next level of management or coordination of watershed activities would be**

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"**planning subregions.**" This is an area drained by a river system, a reach of a river and its tributaries in that reach, a closed basin(s) or a group of streams forming a coastal drainage area. The WRC had set up 222 of these planning subregions (later consolidated to 106 assessment subregions).

The "**accounting unit**" is nested within or equivalent to a planning subregion. It is used by the USGS for designing/managing the National Water Data network. The WRC had set up 352 accounting units. In a small riverine basin these might be equivalent to the planning subregions. This is the level that would be responsible for issuing Section 404 and 401 permits for development projects, making sure that the permit issuance is consistent with the metropolitan planning organization(MPO)/council of governments(COG)/hydroregion plan and its Best Management Practices (BMPs).

**Representing part or all of a surface drainage basin, a combination of drainage basins or a distinct hydrologic feature is the local hydroregion.** Called "cataloging unit" by the USGS, they have about 2100 of these areas and use them in acquiring and cataloging water data. In an effort not to create new layers of government, there should be an effort to use the MPOs or COGs in creating the local institution. One might need to adjust the boundaries of the MPOs or COGs to coincide with watershed boundaries. At this local level or MPO/COG/hydroregion is where the major planning and implementation of the strategies (including site-specific Best Management Practices) would occur.

Each watershed level river basin would have a citizen committee to guide the work and recommend policies. The committee would be made up of 20 percent industry representatives (including agricultural industry and agriculture), 20 percent environmentalists, 15 percent from the professional organizations, 15 percent academics, and 10 percent representing local governments, 10 percent from state government, and 10 percent from federal agencies. The actual size of the committee would depend on the size of the watershed and population of the area. The group would work by consensus and plenty of time to work through the issues would be allowed in building the plan. The membership of the MPO/COG/hydroregion citizen committee would be appointed by the MPO/COGs. The citizen committees for the unit and planning subregion would be made up of representatives from the MPO/COG/hydroregion citizen committee. The citizen committee for the riverine basin would be appointed by the governors of the states involved.

The local MPO/COG/hydroregion plan would be sent to the accounting unit group. That unit citizen committee would work to integrate the different plans coming from the local MPO/COG/hydroregion committees in their area. The unit citizen committee would negotiate with the local MPO/COG/hydroregion committees as well as among themselves to set consistent strategies to handle the identified problems and

### Watershed Basis for Clean Water

priorities for funding. The Unit plan would then be sent to the planning subregion citizen committee for similar action. Their plans would go to the riverine basin citizen committee for integration with the other planning subregion plans. The riverine citizen committee would negotiate with the planning subregion committees, as well as among themselves, to set consistent strategies to handle the identified problems and set priorities for funding. They would set the general policies and water quality standards that must be met for the entire riverine basin. The river basin plan must be approved by the U.S. Environmental Protection Agency.

Based on approved plans and priorities, budgets would be set and funding allocated for implementing the plans.

### III. The Watershed Plan

The goal of each local MPO/COG/hydroregion, accounting unit, planning subregion and riverine watershed plan is to protect the physical, chemical and biological integrity of the hydrologic system and to have all the waters of their watershed in fishable and swimmable condition.

A plan at the local MPO/COG/hydroregion must contain an inventory of the ecosystem, hydrologic system (lakes, ponds, springs, aquifers, streams, rivers, wetlands -- tidal and non-tidal -- and estuaries). Appropriate and defensible water quality standards will need to be developed based on the best scientific information available. The following topics need to be analyzed and strategies developed to overcome problems as defined in the plan:

- quality of surface and ground water
- quantity of surface and ground water
- assimilative capacity of streams and rivers in the area
- wastewater treatment facilities
- instream flow
- quality of drinking water
- flooding and floodplain management
- erosion and sedimentation
- reuse of treated effluent
- septic tank regulations
- dredging and dredged material disposal
- wetlands
- quality of bay, estuary and coastal waters
- drainage
- stormwater management.
- urban and rural runoff, including agricultural and animal waste

Watershed Basis for Clean Water

- comprehensive plans, zoning ordinances, and subdivision regulations
- transportation plans
- injection and dry wells

The plan also needs to deal with water demand from the following sectors:

- domestic and commercial
- manufacturing
- energy production
- mineral production and mining
- agriculture and ranching
- recreation
- navigation
- fish and wildlife
- natural areas, historic and wilderness areas

The plan must include an implementation plan which will put in place procedures to ensure that local governments are following the practices outlined in an approved plan and that violators be prosecuted. Incentives for local implementation may also be beneficial.

The plan also needs to develop monitoring criteria that will assess the effectiveness of the strategies (including site-specific BMPs) adopted to resolve the problems. The plan must mandate consistency of city/county comprehensive or master plans, zoning ordinances, subdivision regulations and riparian/wetlands regulations within the MPO/COG/hydroregion boundaries -- and therefore within the watershed.

The plan should be updated every five years.

Public workshops, education and hearings must be part of the planning process. Only through extensive public education and involvement, so that the consequences of everyone's individual and collective actions are understood, will there be progress in cleaning up our water resources and the environment in general.

There needs to be an appeal process from whatever regulatory measures are put in place. The appeal process should consist first of a hearing by a citizen board. If that does not result in satisfactory resolution of the dispute, then either party can request alternative dispute resolution -- the use of environmental mediation. If the mediation is unsuccessful, the use of the courts is appropriate. Legal proceedings should be disallowed until the first two steps have been completed.

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STATEMENT OF DOUG HARRISON  
on behalf of the  
CALIFORNIA STORMWATER QUALITY TASK FORCE

Before the Subcommittee on Water Resources  
Committee on Public Works and Transportation  
United States House of Representatives

April 1, 1993

INTRODUCTION

Mr. Chairman, members of the Committee, my name is Doug Harrison, and I am the General Manager of the Fresno Metropolitan Flood Control District in Fresno County, California. The District provides urban storm drainage, flood control and water conservation services to the metropolitan area of central Fresno County.

Today, I am appearing on behalf of the California Storm Water Quality Task Force (CSWQTF) for which I have served as Chairman from January, 1990 to December 1992 and which I now serve as Chairman of the Legislative Committee.

The California Stormwater Quality Task Force is a unique organization of some 500 parties representing municipalities, business, industry, regulatory agencies, and independent technical firms. The Task Force has been recognized by the California State Water Resource Control Board as its advisory unit on implementation of section 402(p) of the Clean Water Act and has led the development of the progressive stormwater quality compliance effort underway in our state.

Through the leadership of our Task Force, local agencies, together with our state regulatory bodies, have responded quickly and aggressively to implement the comprehensive stormwater quality program objectives set forth in the 1987 Water Quality Act. Seven of our largest metropolitan counties, containing in excess of 15 million people and dozens of cities, have been operating under regional stormwater NPDES permits since 1990. Through these permits, our state and its municipalities have been implementing a variety of comprehensive stormwater quality improvement programs.

Because of our early effort to implement the Congressional stormwater mandate, we have identified fatal flaws in the current legislative and regulatory framework. More positively, we have also identified the elements required for a successful stormwater quality program.

PROBLEMS WITH CURRENT STATUTE

The fatal flaws in the current legislative and regulatory mandate relating to stormwater quality include the following:

1. Unintended Performance Standard: While the Congress clearly intended the municipal performance standard to be a comprehensive program of "practices", "techniques" and "methods" to reduce the discharge of runoff borne pollutants to the "Maximum Extent Practicable" (MEP), EPA's general counsel has concluded municipal stormwater quality programs must never-the-less achieve numeric end-of-pipe water quality objectives.
2. Unnecessary Litigation: Confusion as to the intended performance standard (programs vs end-of-pipe water quality objectives) has resulted in costly law suits against regional stormwater NPDES permits where local agencies were implementing aggressive, state-of-the-art stormwater quality programs.
3. Unproductive Permit Application Costs: A nationwide survey by the National Association of Flood and Stormwater Management Agencies (NAFSMA) has determined the cost of the municipal Part I/Part II stormwater NPDES permit applications alone will equal or exceed \$140 million (an average of \$761,000 per community) - with none of the expenditure producing any improvement in stormwater quality.
4. Unconscionable Permit Program Costs: A nationwide survey conducted by the American Public Works Association (APWA), in coordination with the CSWQTF, determined the initial cost of the attempt by municipalities to achieve water quality objectives as currently expressed will total \$415 billion, and that continuing annual costs will total \$542 billion. The costs for the Sacramento metropolitan area alone, determined through an attainability analysis, totals \$2.0 billion.
5. Unachievable Standards: Extensive urban runoff quantity and quality research findings (including the attainability analysis performed by the City and County of Sacramento), indicate that even with such massive expenditures, municipalities will not be able to achieve consistent compliance with water quality objectives as currently expressed.
6. Inappropriate Compliance Measures: The variables which influence stormwater system flow and contaminant loading and concentrations, are so numerous and unpredictable, current monitoring technology is not sufficiently accurate to prove the beneficial impact of any particular practice, technique or method from one storm event to the next.

7. Unwarranted Penalties: Without the ability to accurately measure results, responsible communities pursuing extensive stormwater quality programs will be treated the same as irresponsible communities making little effort. In spite of massive efforts and expenditures, responsible communities will be found in non-compliance and subjected to the enforcement and penalty provisions of the statute.

NECESSARY STORMWATER AMENDMENTS TO CWA

Absent substantive amendments to the stormwater provisions of the CWA, local communities will be overwhelmed by the cost of pursuing an impossible regulatory standard and will find themselves in continuing unavoidable violation of their permit requirements. Such a regulatory program has no chance of achieving its declared objectives and can only collapse under the weight of an impossible compliance burden.

The legislation effecting reauthorization of the Clean Water Act must therefore recognize the following principles:

1. the physical, chemical and political character of stormwater is far different from all other forms of regulated discharges and requires a legislative and regulatory mandate reflective of that character;
2. the development of effective technologies and the raising of the necessary financing by the local communities will require a significant period of time; and,
3. the legislative and regulatory framework must establish a performance mandate which is technically and financially feasible and which is sufficiently measurable to ensure accountability and equitable enforcement.

Our Task Force has now developed specific draft language for your consideration. In drafting our proposal, we have conducted an open and active dialogue with the environmental community, municipalities, regulatory agencies, legislative bodies, business and industry and independent technical experts.'

The legislative language we present for your consideration attempts to address the major issues and objectives presented by each of those interests participating in our dialogue. More specifically, the proposal does the following:

1. Reaffirms and clarifies the MEP standard of performance and uses existing water quality objectives as the measurement of progress.

2. Reemphasizes the clearly expressed intention of Congress for stormwater quality management to be accomplished through comprehensive programs focused on pollution prevention as opposed to treatment.
3. Defines as an acceptable stormwater quality program, one which includes:
  - a. specific minimum control practices, techniques and methods; and,
  - b. the requirement to perform additional control practices, techniques and methods as determined necessary.
4. Requires annual program reporting and independent compliance audits as the measure of the communities' stormwater quality program effort and as the basis for the compliance enforcement actions provided in the act.
5. Requires that stormwater criteria and control practices be technically and financially feasible.

#### SPECIFIC PROVISIONS OF PROPOSED STORMWATER AMENDMENTS

Attached to this statement is the proposal of the California Stormwater Quality Task Force for amending the NPDES stormwater permitting provision [Section 402(p)] of the Clean Water Act. The form of the proposal submitted with this testimony includes the issues and points of compromise achieved through the efforts of the Task Force as of March 1993. To date the proposal's concepts have been endorsed by the American Public Works Association and the National Association of Flood and Stormwater Management Agencies. We are informed the proposal is also being actively considered by many other organizations and municipalities across the country.

The proposal includes the following specific provisions:

1. Incorporates the initial deadlines, permit applications and permits initiated pursuant to the 1987 CWA amendments and the related November 1990 regulations.
2. Creates a separate section of the Act [Section 402(q)] for municipal stormwater, this due to the major differences between the industrial and municipal stormwater performance mandates.
3. Extends the permit deadlines for Phase II discharges (e.g. small cities) until October 1, 1996 allowing time for EPA to complete required studies and new guidance documents.

4. Continues to require the prohibition of non-stormwater discharges into storm sewer systems and the removal of pollutants from stormwater discharges to the maximum extent practicable.
5. Requires development of technical guidance and protocols to insure development and implementation of effective comprehensive stormwater quality management programs and permits by the states and municipalities.
6. Requires development, by the states (or the Administrator in non-NPDES states), pursuant to specific EPA guidance and approval, of minimum mandatory stormwater quality management practices, control techniques and methods which must be incorporated into the municipal NPDES stormwater permits in the form of a comprehensive stormwater quality management program.
7. Requires such additional practices, control techniques and methods as are necessary to target specific stormwater borne pollutants impacting impaired receiving waters.
8. Requires studies to:
  - a. develop within 5 years, a specific methodology for establishing feasible stormwater criteria; and, the subsequent inclusion of such criteria in the stormwater quality management programs and permits.
  - b. evaluate the effectiveness of controls related to receiving water quality;
  - c. investigate the sources, and potential source control measures, for pollutants typically found in stormwater; including studies of sources and source reduction related to motorized vehicles.
9. Achieves compliance enforcement by:
  - a. Requiring continuing monitoring and assessment of the implementation and effectiveness of the practices, control techniques and methods;
  - b. the preparation of comprehensive annual reports of program performance, monitoring and assessment evaluations;
  - c. the use of independent external compliance audits; and,

- d. the use of established water quality objectives as the measure of program progress; and, the use of the program performance requirements in the permit as the tests of compliance and enforcement under the CWA.

10. The proposal further requires:

- a. the stormwater criteria, management practices, control techniques and methods to be technologically and financially feasible;
- b. the lists of practices, control techniques and methods be continually updated, to incorporate new technology or feasibility and to delete ineffective practices;
- c. public participation in the development of the municipal stormwater quality management programs; and,
- d. continuing operation and maintenance of the implemented practices, control techniques and methods.

CONCLUSION

It was our privilege to testify before this committee on this subject in April 1991. At that time we could only predict the problems we foresaw in the structure of the stormwater program. Today we can specifically define and quantify the problems with the current mandate. We can describe the dilemma this has created for local government; and, we can provide a specific proposal for a functional remedy.

The Problem Defined

Though clearly unintended, the stormwater quality mandate is now the achievement of existing end-of-pipe water quality objectives. Even with massive end-of-pipe treatment and in-system structural measures, the tremendous number of variables in stormwater flow and urban pollution make achievement of end-of-pipe objectives impossible for stormwater systems.

The Problem Quantified

The cost of preparing the municipal stormwater permit applications are averaging \$761,000 per community - \$140 million nationally. This expenditure, however, will only initiate the paperwork, it will not develop or implement any stormwater clean-up activity.

The initial capital costs nationwide to pursue stormwater compliance with existing water quality objectives will total \$415 billion dollars, and continuing annual stormwater program operations and maintenance costs will total \$542 billion per year. The City and County of Sacramento County alone would incur costs of \$2 billion in its attempt to achieve existing water quality objectives. Even with such massive expenditures, however, stormwater discharges cannot achieve existing water quality standards.

#### The Dilemma of Local Government

The costs of the total environmental mandate, and perhaps the cost of the stormwater mandate alone, exceeds the ability of local government to pay for it. The Cities of Columbus, Ohio and Anchorage, Alaska have calculated environmental programs compliance costs of \$1.6 billion and \$430,000 respectively, to be incurred prior to the year 2000. This represents estimated costs per capita ranging from \$1,200 to \$1,800, all to be funded from local revenues. The per capita costs in Sacramento for stormwater alone would total \$ 2,000.

Perhaps in no other single area are the stormwater quality issues faced by local government more clearly seen than in this area of costs and their impact on other public service needs. Decisions among alternative budget cuts -- trading parks and recreation for police and fire; planning and traffic for infrastructure; and more -- are before cities and counties at the same time they are told they must now spend dollars they don't have for a product (stormwater quality compliance) that can't be achieved.

In a recent briefing of the Chairman of our own local County Board of Supervisors to discuss a stormwater quality tax, the Chairman noted that before raising taxes for stormwater quality, we should consider that half of the County fire stations would be closing and the jail would be releasing prisoners due to tax revenue deficiencies.

#### The Functional Remedy

During two years of discussion with business and industry, environmental and governmental interests, our Task Force has been able to identify principles upon which can be constructed a functional stormwater quality program. We believe our legislative proposal attached to this statement incorporates those principles. It is:

- environmentally responsible;
- protects the integrity of, and continues progress toward, national water quality objectives;

- is responsive to, and reflective of, regional needs and variations;
- is measurable and enforceable; and holds municipal permittees accountable for their program efforts; and,
- protects local municipalities against unachievable compliance mandates and against indefensible enforcement actions.

As presently structured, the stormwater quality provisions of the CWA is a regulatory program in which the large majority of participants will be in continual unavoidable violation of the program requirements. As such, it is a program which has little chance of achieving its objectives. Such a program is not what Congress intended and can only collapse under the weight of an impossible compliance burden - a good idea cursed by an ill-conceived performance mandate.

It has been the effort of the California Stormwater Quality Task Force to identify the constructs of a functional workable stormwater quality program. It is now the task of the Congress to amend the Clean Water Act in such a way as to make the functional, workable stormwater quality management program a legal program.

## THE CLEAN WATER ACT REAUTHORIZATION:

A PROPOSAL FOR AMENDING NPDES PERMITTING OF MUNICIPAL  
SEPARATE STORM SEWER SYSTEMS  
Submitted by the  
CALIFORNIA STORMWATER QUALITY TASK FORCE

FINAL CONCEPT DRAFT: MARCH 26, 1993

An amendment to the Clean Water Act to place municipal stormwater in a separate section, to create a stormwater quality management program as the functional definition of "maximum extent practicable" (MEP) and to clarify that MEP as so defined is the basis for enforcement of this section of the Clean Water Act.

Sec 402(p) Industrial Stormwater Discharges

Revise to apply to industrial discharges only.

Add New Section:

Sec 402(q) Municipal Separate Stormwater Discharges

- (1) GENERAL RULE - Beginning October 1, 1992, the Administrator, or the State in the case of a permit program approved under Section 402 of this Act, shall require a permit under this section for discharges from municipal separate storm sewer systems.
- (2) EXCEPTIONS - Municipal separate storm sewer systems serving a population of less than 100,000, and municipal facilities in such systems defined as stormwater discharges associated with industrial activity pursuant to Section 402(p) and owned by the municipality owning such municipal separate storm sewer system, shall be exempt from permit requirements hereof until October 1, 1996, except as provided in paragraph 4 below, or until Phase II of this stormwater quality program is implemented by subsequent federal legislation and regulation.

## (3) PERMIT APPLICATION REQUIREMENTS.-

"(A) LARGE MUNICIPAL SEPARATE STORMWATER SEWER SYSTEM DISCHARGES.- Not later than November 16, 1990, the Administrator shall establish regulations setting forth the permit application requirements for municipal separate stormwater sewer systems serving a population of 250,000 or more. Part I applications for permits for such discharges shall be filed no later than November 18, 1991 and the Part II Application not later than November 16, 1992. Not later than November 16, 1993, the Administrator or the State, as the case may be, shall issue or deny each such permit. Any such permit shall provide for compliance as expeditiously as practicable, but in no event later than 3 years after the date of issuance of such permit, unless otherwise provided in this section.

"(B) MEDIUM MUNICIPAL SEPARATE STORM SEWER SYSTEM DISCHARGES.- Not later than November 16, 1990, the Administrator shall establish regulations setting forth the permit application requirements for municipal separate stormwater sewer systems serving a population of at least 100,000, but less than 250,000. Part I applications for permits for such discharges shall be filed no later than May 18, 1992 and the Part II application not later than May 17, 1993. Not later than May 17, 1994, the Administrator or the State, as the case may be, shall issue or deny such permit. Any such permit shall provide for compliance as expeditiously as practicable, but in no event later than 3 years after the date of issuance of such permit, unless otherwise provided in this section.

- (4) Notwithstanding subsection (2) of this section, the Administrator, or State, may require a permit for any municipal separate storm sewer system where it is determined that the stormwater discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.
- (5) PERMIT REQUIREMENTS - Permits issued after the date of enactment of this section for discharges from municipal separate storm sewer systems:
- (A) May be issued on a system or jurisdiction-wide basis;
  - (B) Shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers;

- (C) Shall require controls to reduce the discharge of pollutants, which may include oil and grease, total suspended solids, heavy metals, nutrients and biochemical oxygen demand, to the maximum extent practicable, including management practices, control techniques and system design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants;
  - (D) Shall require development and implementation of a municipal stormwater quality management program for implementation of the permit requirements described in paragraphs (5)(B) and (5)(C) of this subsection, which program shall be incorporated into the permit and be subject to public hearing and review prior to adoption.
  - (E) Municipalities which have received permits pursuant to section 402(p) of this act, prior to the date of enactment of this section, may elect to continue under the provision of the existing permit, until its normal expiration, or may elect to terminate the existing permit and secure a new permit pursuant to the provisions of this section. If this option is exercised, the provisions of any existing permit shall continue in full force and effect until issuance of the new permit at which time the provisions of the prior permit shall become null and void.
- (6) PERFORMANCE REQUIREMENTS AND CRITERIA -
- (A) For each State, not later than 12 months following completion of the guidance manual identified in subparagraph (6)(A)(iv) hereof, the Administrator, or the State in the case of a permit program approved under Section 402 of this Act, shall, pursuant to the public participation requirements of this act, develop specific minimum mandatory management practices, control techniques, and methods to be included in the municipal stormwater quality management programs required in paragraph (5)(D) of this section, which practices, techniques and methods shall be technologically and financially feasible.

- (i) These mandatory practices, techniques, and methods shall be incorporated into the stormwater quality management programs required in subsection (5)(D) of this section as expeditiously as practicable, but in no event shall implementation of such practices, techniques and methods occur later than during the permit term following the first permit initially issued under Section 402(q).
- (ii) State plans prepared pursuant to paragraph (6)(A) of this section shall be reviewed and certified by the Administrator.
- (iii) The Administrator, or the State in the case of a permit program approved under Section 402 of this Act, shall periodically update the list of mandatory practices, techniques and methods required to be developed under paragraph (6)(A) of this section, to include the most recent technologically and financially feasible stormwater quality controls and to delete those controls proven to be ineffective or not technologically or financially feasible.
- (iv) The Administrator shall, no later than 12 months from the date of enactment of this amendment to the Act, prepare a guidance manual to assist EPA and the States in the development of specific minimum mandatory management practices, control techniques and methods to be implemented pursuant to Paragraph (6)(A) of this section.
- (v) The guidance manual identified in subparagraph (6)(A)(iv) should include a protocol to guide the selection of the minimum methods, practices and techniques to be implemented in the permittee's municipal stormwater quality management program. Such protocol shall consider land use categories, including residential, commercial, industrial and transportation, and shall encourage the implementation of such methods, practices and techniques in the order of the following prioritization: (1) elimination of illicit connections and illegal dumping to the municipal storm sewer system; (2) minimization of the discharge of pollutants in areas of new development or redevelopment; (3) minimization of the discharge of pollutants in areas of

existing development; (4) implementation of pollutant-specific source reduction programs; (5) on-site structural stormwater quality management; and (6) off-site structural stormwater quality management

- (B) The Administrator, or State in the case of a permit program approved under Section 402 of this Act, shall require the inclusion in the municipal stormwater quality management program required in paragraph (5)(D) of this section, of such additional practices, techniques, and methods which target those categories and subcategories of pollutants in municipal stormwater that add significant additional pollution to each portion of navigable waters identified under subparagraph 304(1), 305(b) and 319(a)(1)(A) in amounts which impair the beneficial uses of such waters.
- (i) For known cases of such significant additional stormwater pollution, these additional practices, techniques, and methods shall be implemented by the permittees as expeditiously as practicable, but in no event shall implementation occur later than during the permit term following the first permit initially issued under Section 402(q). For cases of such significant additional stormwater pollution which are identified in the future, such additional practices, techniques and methods shall be implemented during the first permit term following identification.
- (ii) Such additional practices, techniques, and methods shall include specific measures to address such pollutants in discharges from any municipal industrial facilities that may be owned by the permittee and defined as an industrial discharge pursuant to Section 402(p).
- (iii) Such additional practices, techniques, and methods which are determined to be technologically and financially feasible shall be included in the municipal stormwater quality management program required under subparagraph (5)(D); provided, that those additional practices, techniques and methods which are found to be ineffective or not technologically or financially feasible may be deleted from said program.

- (C) For every permit issued under this section, the Administrator, or State in the case of a permit program approved under section 402 of this Act, shall require for the term of the permit the inclusion in the municipal stormwater quality management program required in paragraph (5)(D) of a reasonable and cost effective monitoring and assessment program, to include sampling and analysis and an assessment of the implementation of the practices, techniques and methods required by paragraph (5)(D). Such implementation assessment shall be conducted, at a minimum, of once every year of the permit term.
- (D) For every permit issued under this section, the Administrator, or State in the case of a permit program approved under Section 402 of this Act, shall require for the term of the permit the inclusion in the municipal stormwater quality management program required in paragraph (5)(D) of a reasonable and cost effective maintenance program. Such a program shall specify regular schedules of maintenance, replacement, and repair necessary to maintain the effectiveness of the program.
- (E) For every permit issued under this section, the Administrator, or State in the case of a permit program approved under Section 402 of this Act, shall require the permittee to submit an annual report. The report shall be subject to an independent audit conducted in accordance with guidance promulgated by the Administrator. The report shall include:
- (i) The status of implementing the components of the mandatory and additional management practices, control techniques, and methods required under paragraphs (6)(A) and (6)(B);
  - (ii) A Summary of monitoring and assessment program activities required under paragraph (6)(C); provided that the quantitative data shall be aggregated every fifth year to analyze long term changes and results.
  - (iii) The status of the effort to effectively prohibit non-stormwater discharges into the storm sewers as required under paragraph (5)(B);

- (iv) A Summary of municipal stormwater quality management program revenues and costs for the reporting period, and when possible the budget for the next reporting period.
- (F) For every permit issued under this section, the Administrator, or State in the case of a permit program approved under Section 402 of this Act, shall provide for public participation in the development of the municipal stormwater quality management program required in paragraph (5)(D) of this section. Such public participation shall, at a minimum, include the following: (i) public review and comment opportunities provided pursuant to Section 402 of the Act; (ii) solicitation of public input and comment on the scope, strategy, monitoring scheme, and maintenance schedule of management methods, techniques and practices to be included in the program; and (iii) review of monitoring data collected by urban water quality monitoring organizations.
- (G) The requirements of this section shall be applied consistently with the requirements of Section 304 (1) of this Act.
- (7) STUDIES - The Administrator, in consultation with the States, shall conduct studies as defined herein.
  - (A) For those municipal storm sewer systems for which the obligation to secure a permit are deferred pursuant to subsection (2) of this section, studies shall be conducted for the purposes of:
    - (i) Identifying such systems;
    - (ii) Estimating the nature and extent of pollutants in such discharges and the impacts of such discharges on designated beneficial uses; and
    - (iii) Establishing procedures and methods to control such stormwater discharges to the maximum extent practicable to prevent or reduce impairment of beneficial uses.

Not later than October 1, 1995, the Administrator shall submit to Congress a report on the results of the study described in subparagraph (7)(A)(i)(ii) and (iii).

- (B) For municipal separate storm sewer systems for which the obligation to secure a permit is not deferred pursuant to subsection (2) of this section, studies shall be conducted for the purpose of providing research and technical support and assistance relating to:
- (i) Establishment of a methodology for determining stormwater quality criteria which protect the waters of the United States from impairment of beneficial uses because of the discharge of municipal stormwater, which methodology shall be technologically and financially feasible and which shall be completed no later than 5 years from the date of enactment of this amendment to the Act; and such criteria shall be incorporated into the municipal stormwater quality management program no later than 10 years from the date of enactment of this section.
  - (ii) Determination of the impacts of the management practices, controls, methods and techniques implemented pursuant to this section on the designated beneficial uses of receiving waters; and
  - (iii) Assessment of related issues.
- (C) Not later than five years after enactment of this amendment, and after providing an opportunity for public comment, the Administrator shall submit a Report to Congress evaluating (1) the proportionate sources of stormwater pollution, including the contribution of all classes and categories of on-road motor vehicles to stormwater pollution, inclusive of contributions from emissions, leakage of oil and other motor vehicle fluids, materials from brake linings, and other vehicle components; and (2) available or potentially-available technologies for reducing the contributions of such pollutants.

## (8) REGULATIONS

- (A) For those municipal stormwater discharges for which permits are deferred pursuant to subsection (2) of this section, not later than October 1, 1996, the Administrator, in consultation with State and local officials, shall issue regulations, based on the results of the studies conducted under paragraph (7)(A), which designates the categories of municipal stormwater discharges to be regulated to protect water quality. The regulation shall also describe a comprehensive program to control such municipal stormwater discharges. The program shall, at a minimum:
- (i) establish priorities;
  - (ii) establish requirements for state stormwater management programs which requirements are consistent with the stormwater management program guidance established in paragraph (6)(A)(iv) and (6)(A)(v) of this section; provided however, that upon a demonstration by such a municipality that compliance with such sections is infeasible, the State and municipality may devise an alternate management program;
  - (iii) establish expeditious deadlines.
- B. Upon completion of the study conducted pursuant to Section (7)(C) hereof, the Administrator shall report the results thereof to the Congress with recommended regulations concerning the reduction of stormwater pollution at its source, including recommended regulations relating to the design and construction of on-road motor vehicles, determined by such study to be necessary to reduce sources of stormwater pollution from such vehicles to the maximum extent economically and technologically feasible. Such recommended regulations may distinguish between the size and purpose of vehicle classes and categories, and shall consider all available technologies to reduce or eliminate vehicular sources of stormwater pollutants. The recommended regulations may address performance standards governing the maximum degree of leakage or other sources of stormwater pollution from motor vehicles, or may propose appropriate design or construction standards and requirements; provided, that nothing in this Act shall supersede the Air Quality Management Act relative to vehicular emissions, and further provided that any vehicle

manufacturer may petition the Administrator to determine that alternative design and construction methods achieves the same or superior performance in terms of preventing stormwater contamination. The Administrator's report to the Congress shall be transmitted no later than 6 years after enactment of this amendment to the Act, and shall include the proposed schedule of implementation of and compliance with the recommended regulations.

(9) PERMIT COMPLIANCE

- (A) Implementation of the practices, techniques, methods and the monitoring and assessment program set forth in the municipal stormwater quality management program and permit as required under paragraph (5)(D) and (6)(C) shall be the basis for determining compliance with the Act.
- (B) Compliance shall be evaluated and determined annually by Administrator or State based on submittal of annual reports as required under paragraph (6)(E) of this section.
- (C) Enforcement action related to noncompliance with permit conditions established pursuant to paragraph (5)(D) and (6)(C) of this section shall be in accordance with the provisions of paragraph (9)(A) Section 402q.



**ASSOCIATION OF METROPOLITAN SEWERAGE AGENCIES**

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Statement of the  
Association of Metropolitan Sewerage Agencies  
before the  
Subcommittee on  
Water Resources and Environment  
of the  
House Public Works and Transportation Committee  
on the  
Reauthorization of the Clean Water Act

April 1, 1993

PRESENTED BY KEN KIRK, EXECUTIVE  
DIRECTOR, ASSOCIATION OF  
METROPOLITAN SEWERAGE AGENCIES

ON BEHALF

OF

J. Wayne Sylvester  
President, AMSA Board of Directors  
General Manager  
County Sanitation Districts of  
Orange County  
Fountain Valley, California

*Dedicated to Environmental Improvement for Over 20 Years*

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Mr. Chairman and members of the Subcommittee, I am Wayne Sylvester, General Manager of the County Sanitation Districts of Orange County, California. I appear before you today representing the Association of Metropolitan Sewerage Agencies (AMSA). AMSA's members represent the nation's largest wastewater treatment agencies. We serve the majority of the sewered population in the United States, and collectively manage over 14 billion gallons of wastewater each day.

I am pleased to be here today as the President of AMSA to provide our perspective on the reauthorization of the Clean Water Act. We sincerely appreciate the opportunity to share with you our thoughts and recommendations as environmental practitioners dedicated to protecting and improving the quality of the nation's waters.

AMSA is a supporter of reauthorization of the Clean Water Act and its goal of fishable and swimmable waters. AMSA believes that this reauthorization must use an integrated and comprehensive strategy that establishes new priorities for achieving water quality goals. It must recognize the wide range of conditions present in the nation's watersheds and provide flexibility to decision makers so that they can address site-specific conditions. It must target both point and nonpoint sources. It must develop mechanisms for control that properly balance environmental gains and their cost-effectiveness. And it must provide the funding to implement its clean water mandates.

#### PUTTING THE REAUTHORIZATION INTO PERSPECTIVE

First and foremost, it is important to put reauthorization of the Clean Water Act into an historical perspective. This nation, its states, cities and towns have made enormous progress in the more than 20 years since the passage of the 1972 Clean Water Act. In 1972, national standards that targeted point sources made sense. We had identifiable problems traceable to easily controlled sources. Congress provided funding, necessary deadlines and enforcement mechanisms. Coupled with a considerable amount of public support and motivation, this set the stage for our nation to successfully address many of its clean water challenges.

Today is a totally different situation. While public support for environmental progress and improvement continues, the new and emerging issues we must address are more complex and costly. The control of combined sewer overflows and the management of stormwater and nonpoint sources of pollution provide excellent examples. Today, fiscal shortfalls at every level of government are unprecedented, which makes dollars harder to get.

#### RECONCILING CONSTRAINTS/EXPECTATIONS/NEEDS

In a reauthorized Clean Water Act we need to reconcile the constraints of the 1990's with our continued high expectations and the need to make continuing progress. Reconciling constraints with expectations within the context of the Clean Water Act will involve several things, the first of which is an increased Federal financial commitment, in partnership with state and local governments. Attached to my testimony is a report AMSA has published called "The Cost of Clean". Among the key findings of the report are the following:

- Funds totalling over \$23 billion will be required for AMSA's member agencies to meet currently mandated clean water needs to the year 1995;
- [CHART] We can expect operation & maintenance costs -- which are paid totally by local government -- to double every eight years;
- [CHART] Historical data allows us to project that annual household user fees will, at a minimum, double every six years; and that
- [CHART] Currently, local governments pay 80 - 90% of the Cost of Clean.

I believe that we -- my colleagues on this panel and the members of this distinguished Subcommittee -- should work together to keep the Federal feet to the fire. We must not lose sight of the fact that this is a national program -- with an integral relationship to our long term environmental health and economic growth. For many years all of us have spoken in support of a Federal, state and local partnership, but local government's 80 - 90% piece of the funding pie does not represent an equitable, shared partnership. And it interferes with our forward progress -- the ratepayer backlash that some communities are now experiencing is one prime example of this.

Our job -- the collective mission embodied in the national clean water program -- is far from done. AMSA believes that an annual funding level of \$6 billion through FY 1997 is warranted, at which time our national needs should be reassessed. We believe this money should be disbursed as both loans and grants, and we believe an evaluation of dedicated sources of revenue should accompany, and be coupled with, increased general fund revenues. The new Administration has voiced a commitment to the environment, but many other national priorities exist. We all recognize that the quest for clean water funding will be a struggle; however, our clean water partnership needs not only a short term, but also a long term stimulus.

The next step in reconciling constraints with expectations is for all of us to refocus our concerns and priorities. We need to resist the temptation to set unrealistic deadlines and prescriptive national solutions to local problems. Prescriptive national solutions do not, by their nature, provide the level of flexibility necessary to consider site-specific circumstances and result in the unnecessary expenditure of ever more scarce resources.

In support of this recommendation for necessary and desirable flexibility, I offer the following example. The U.S. Environmental Protection Agency has just completed the comment period on a new National Combined Sewer Overflow Control Policy. The policy -- developed as a result of a stakeholder negotiation process in which AMSA took part - - provides the level of direction local communities have needed to proceed with CSO controls. In the policy, this national direction is coupled with sufficient flexibility to consider site-specific variables. It is a welcomed solution to a difficult and complex

problem and, in our view, eliminates the need for further legislative action within the Clean Water Act reauthorization to address CSOs. The Federal government should know, without a doubt, that it's on the right track when the Association of Metropolitan Sewerage Agencies, the Natural Resources Defense Council and the Environmental Defense Fund all sign a single letter of support for a national policy. And that is exactly what we were able to do in this case.

There is one more very important temptation that we must -- as a nation -- resist. I speak of the propensity to attempt to fix programs that aren't broken. There's an old adage, "If it isn't broken, don't fix it." That adage applies to many of the programs within the Clean Water Act, among them our national programs for industrial pretreatment and biosolids management. They are not broken -- I urge you not to attempt to "fix" them.

However, there are numerous things you can provide to make the nation's Clean Water Program work better. We ask that, in the reauthorization of the Clean Water Act, you provide local governments with a level of much needed flexibility that I alluded to earlier. We ask that you better define the roles of anti-backsliding and anti-degradation in the context of the Act, and we suggest that anti-degradation should be assessed based on existing beneficial uses. We envision a new Act that provides for the much needed development of wet weather water quality standards.

A reauthorized Clean Water Act should provide increased funding for additional research for use in water quality management decisions and a clear and present affirmation that science and risk assessment serve as the foundation for water quality decisions. We encourage you to eliminate potential barriers to the beneficial use of biosolids and oppose bans or unreasonable restrictions on the interstate transport of this valuable national resource. Additionally, we encourage you to focus your attention and resources on clearly defined problems.

#### THE SEARCH FOR A SOLUTION

It's a tall task and we're very aware that many come before you with problems and complaints, but no solutions. But along with our requests and recommendations, we are also prepared to offer a solution. AMSA views a national program for comprehensive watershed management as the best way to link limited resources with continued environmental improvements. Our Association spent much of the last two years, as did Water Quality 2000 -- who testified before you yesterday -- coming to one clear conclusion. Our shared conclusion was that comprehensive watershed management, as a means to achieve our national water quality goals, makes a lot of sense.

With our testimony we have provided you with a copy of proposed legislation we have drafted entitled, the Comprehensive Watershed Management Act of 1993. The vision contained in the Comprehensive Watershed Management Act of 1993 calls for the development of comprehensive watershed management plans with the participation of all point sources, nonpoint sources, users of the watershed, citizens and levels of

government. Through the proposed legislation, the reduction of pollutant loadings follows rationally from a scientific analysis of site-specific conditions and the technologies available to improve those conditions. Priorities are established based on the quality and use of receiving waters, ecosystem health, and the sources of pollutants that legitimately threaten the watershed.

AMSA believes that comprehensive watershed management planning must emphasize establishing priorities, maintaining flexibility and empowering local, regional and state government and the affected community-at-large to solve their unique problems. AMSA's comprehensive watershed management legislation provides:

- a geographic framework that places public policy on water quality issues into a relevant and cost effective context;
- an institutional framework for developing watershed management strategies by creating watershed management commissions;
- a management framework for comprehensive watershed management planning by requiring a step-by-step evolution of policies, standards, requirements, plans and programs;
- a technical and scientific framework by identifying methods to evaluate, attain, monitor and maintain watershed-specific water quality objectives. This technical framework would emphasize appropriate point and nonpoint source controls and incentives, as well as financing plans to attain water quality objectives; and
- a regulatory framework that provides Federal oversight and enforcement of locally-created comprehensive watershed management plans through the existing National Pollutant Discharge Elimination System (NPDES) program and other mechanisms.

In conclusion let me suggest the following. We need to consistently search for better ways of doing things -- more flexibility and more attention to site-specific variables. A better public awareness of what the problems are, the importance of solving them, and the best solutions. In short, a better understanding of the most effective, yet pragmatic means through which we can accomplish our national clean water goals. There has to be a measurable and meaningful return for our investment.

Now, as we shift our attention to controlling as yet unaddressed sources of pollution, we all recognize that we have a long way to go. No one ever suggested that the task of improving and protecting the nation's waters would be an easy one -- however, working together, I know we can succeed.

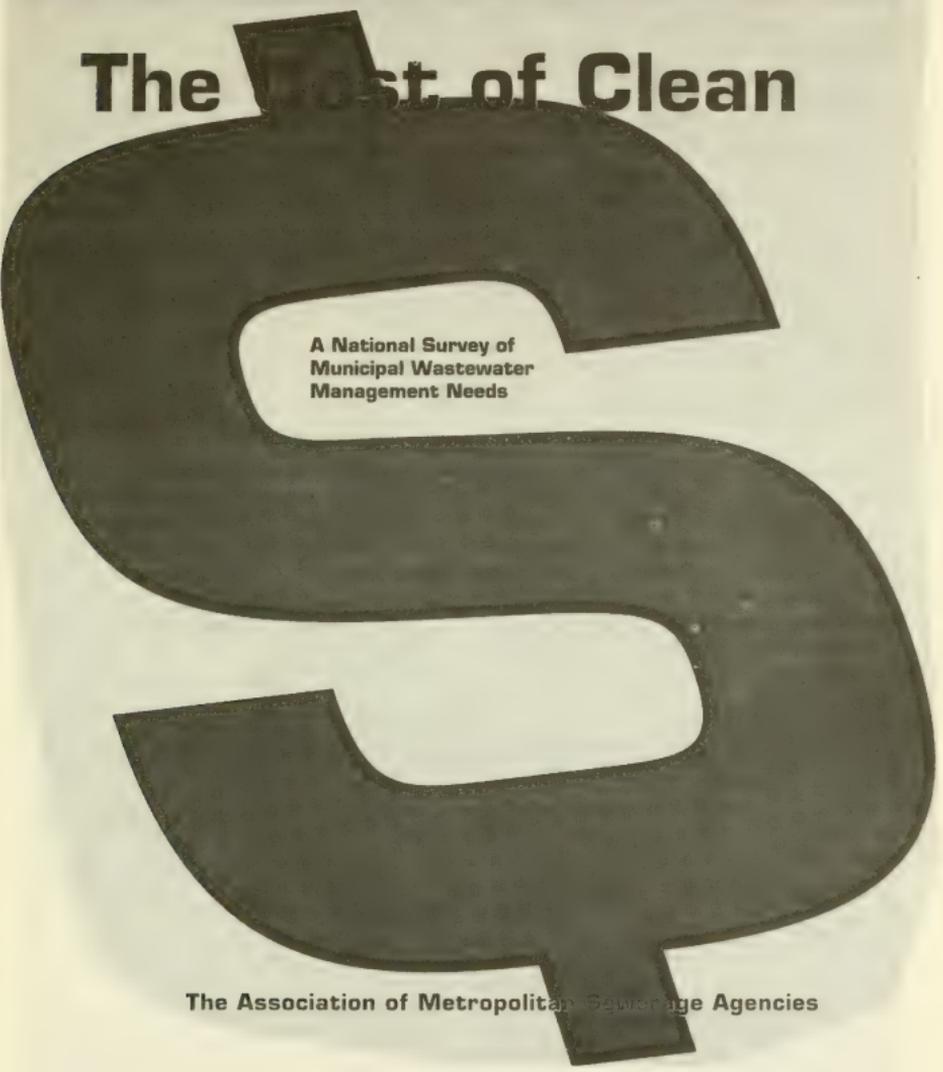
This concludes my testimony. I would be pleased to answer any questions you may have.

Attachments:       The Cost of Clean  
                          The Comprehensive Watershed Management Act of 1993

For more detailed information regarding issues of significance to AMSA, please see testimony provided before this Subcommittee as follows:

- April 17, 1991 -       Funding for Wastewater Treatment Needs and the Reauthorization of the Clean Water Act
- April 18, 1991 -       Sludge Management and the Reauthorization of the Clean Water Act
- April 23, 1991 -       Combined Sewer Overflow Control and Mitigation and the Reauthorization of the Clean Water Act
- May 1, 1991 -         Great Lakes Issues and the Reauthorization of the Clean Water Act
- May 14, 1991 -        Water Quality Control and the Reauthorization of the Clean Water Act
- May 14, 1991 -        Enforcement Issues and the Reauthorization of the Clean Water Act

# The Cost of Clean



**A National Survey of  
Municipal Wastewater  
Management Needs**

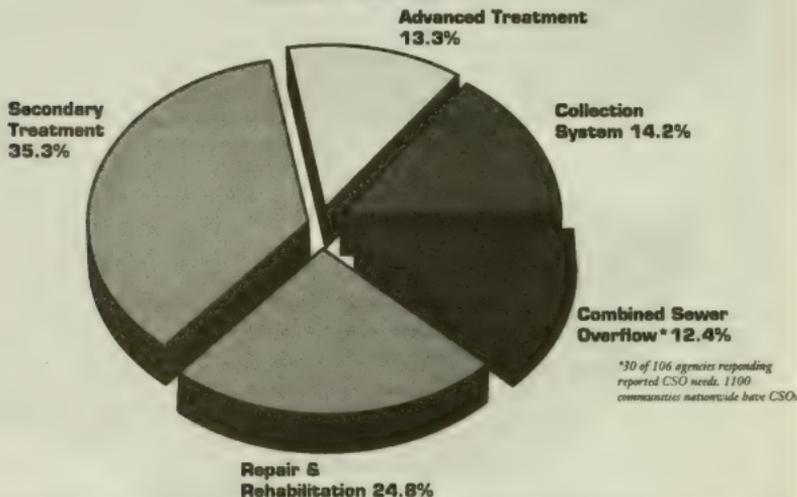
**The Association of Metropolitan Sewerage Agencies**

**skyrocketing costs pose a financial hardship**

This report, and many others recently published, documents the fact that our water pollution control needs, as a nation, are considerable — in fact some may call them “mind-boggling.” Emerging needs such as combined sewer overflows, stormwater management, nutrient control, and nonpoint source controls will clearly require additional funds.

The reality of the situation is that environmental mandates have increased in both their number and cost, and Federal financial support of the nation’s clean water program has diminished. As a result, the nation’s ratepayers have been asked time and time again, to pay an increasing share of this financial burden. Without a doubt, the price tag for ongoing water quality needs will continue to escalate. The question we must address as a Nation is who will pay “The Cost of Clean.”

### Capital Needs 1990-1995 \$22.6 Billion



\* Capital needs for the 1990-1995 period totaled \$22.6 billion. The total documented needs represent committed projects, projects underway, and projects scheduled to begin during this period. Needs in the areas of inflow and infiltration and stormwater management are included in the Collection System category, while air quality needs are reflected in Advanced Treatment. Rehabilitation costs reflect a growing emphasis on the repair and replacement of existing treatment systems, many of which were built in the early years of the Clean Water Act. This trend is expected to continue for years to come.

**Cleaner environmental  
does not come free of charge**

*The Arizona Republic*  
March 8, 1992

**Headlines from across the nation** decry both the need for environmental protection and the desire to control costs. In recent years, local governments — and in turn their citizens — have paid an ever increasing share of "The Cost of Clean".

The Clean Water Act's historic focus on technology-based standards and end-of-pipe treatment, framed by aggressive schedules for compliance, and supported by significant Federal funding, has achieved enormous reductions in pollutants discharged to our nation's waters. The success we have experienced required each of these elements, and would have been impossible without one in particular — the significant Federal support provided through the Construction Grants Program.

The fact is, the Grants Program worked. Federal, state and local monies provided the impetus to improve and protect our nation's waters. And, as a result, much has been accomplished.

**Today our focus must shift to a more comprehensive approach**, addressing the control of more complex and diverse sources of pollution. One thing, however,

must not change. Continued Federal funding of projects mandated by the Clean Water Act — within the context of a balanced Federal/State/Local partnership — is critical to the ultimate achievement of national water quality goals.

As we narrow our sights on remaining pollution problems, ratepayers must not be forced to bear this burden alone. The

nonsewered population also realizes the benefits of clean water. And while large populations located in

major metropolitan areas provide a considerable financial base, they also include large numbers of low income, and poverty level residents who would find significant additional rate increases unbearable.

**The Federal government shares in this financial responsibility.** Our job is not done, and Congress has an important and continuing role in this process. As long as significant environmental improvements are federally-mandated, the Federal commitment to funding assistance must continue.

## ----- Sewer rates to jump

*Wisconsin State Journal*  
December 3, 1991

## LEGISLATION MAY INCREASE COSTS

*The Newport Beach/Costa Mesa Daily Pilot*  
March 18, 1992

**Compelling national interests, not only environmental and public health, but economic, social and political, make necessary an aggressive and comprehensive effort** to preserve existing water resources and restore polluted waterbodies and basic infrastructure as rapidly as possible. This massive task means that we must intelligently and successfully target our clean water resources to give priority to the most serious problems and identify where we get the most environmental benefit for the least cost. Consequently, we must use the reauthorization of the Clean Water Act to establish processes that will give the country an integrated and comprehensive strategy that establishes new priorities for achieving clean water goals.

### A new Clean Water Act must

target point and nonpoint sources. It must encourage innovative multi-media strategies as an indispensable component of clean water planning.

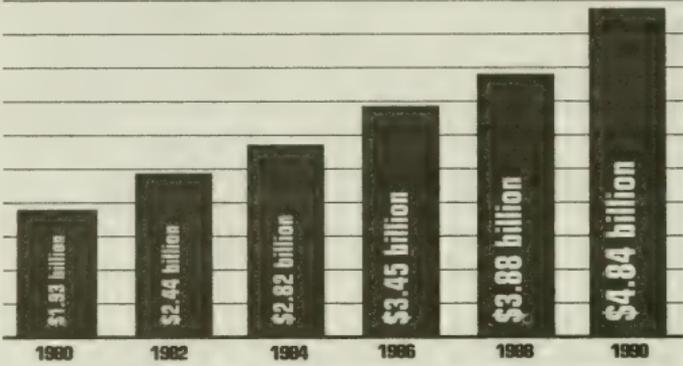
Finally, it must consider not only our hopes and dreams for the future, but also the realities of funding needs and availability, and the constraints that limited funding will impose on the pace we can maintain.

## Sewer fee hike headed for city

*The Sun Press*  
January 31, 1991

### Annual Operation & Maintenance Expenses\* For 144 AMSA Member Agencies

\*1983, 1987, and 1990 AMSA Financial Survey

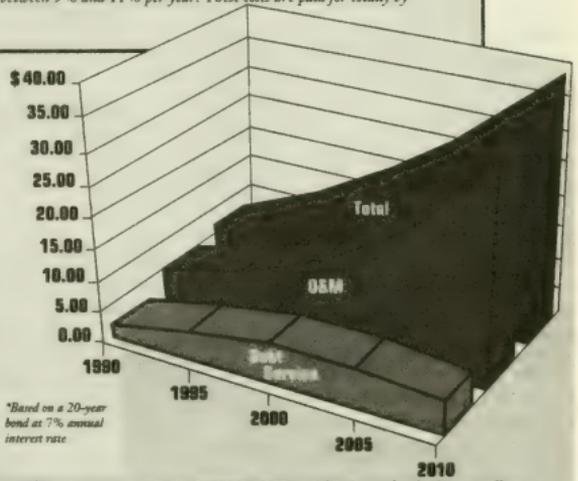


\* Operation & Maintenance (O&M) costs, traditionally make up a higher percentage of a local agency's budget than capital costs. As new technologies are applied to meet more stringent requirements, the costs associated with operation & maintenance increase. Based on past surveys, we can project that O&M expenses will double every 8 years, with increases between 9% and 11% per year. These costs are paid for totally by local communities.

### Projected Needs to 2010

Projected Revenue Required (in \$billions)

1990	O&M	\$ 4.84
	Debt Service*	\$ 1.74
	Total	\$ 6.58
1995	O&M	\$ 7.86
	Debt Service*	\$ 4.20
	Total	\$12.06
2000	O&M	\$12.78
	Debt Service*	\$ 6.36
	Total	\$19.14
2005	O&M	\$20.77
	Debt Service*	\$ 6.59
	Total	\$27.36
2010	O&M	\$33.75
	Debt Service*	\$ 5.47
	Total	\$39.22



\*Based on a 20-year bond at 7% annual interest rate

\* Projections of debt service and operation & maintenance needs for the 1990-2010 period indicate that high costs will not diminish in the future. AMSA's Needs Survey results focus only on costs associated with compliance with existing requirements. As communities face new environmental mandates, the cost burden will continue to escalate.

## Funding Capital Needs: Who Pays?

• Of the current \$22.6 billion 1990-1995 capital needs only \$1.8 billion, or 8% of the total needed, is expected to be financed by Federal assistance. Currently, local governments, through rates and taxes, carry 80% or more of the capital burden — in addition to 100% of the sharply increasing operation, maintenance and replacement costs.

The 11% projected State funding includes State Revolving Loans which are ultimately repaid with local funds, increasing the real local burden to over 90% of the total wastewater capital costs.

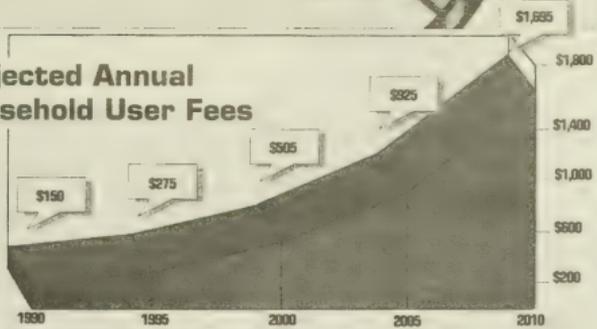
**Local Governments 80%**

**State Governments 11%**

**Federal Government 8%**

**Other 1%**

### Projected Annual Household User Fees



• Annual household user fees are now doubling every six years. They are projected to rise at an even greater rate in the future due to increased local funding of capital projects, increased operation & maintenance costs associated with higher levels of treatment and newly mandated environmental programs. The issue of increasing user fees heightens political pressures as rate increases impact the users, especially those on fixed or limited incomes.



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*A report of the Association of Metropolitan Sewerage Agencies, a national organization representing nearly 150 metropolitan wastewater treatment agencies. For additional copies of this report, copies of AMSA's 1990 Wastewater Treatment Agencies Financial Survey, or additional background data, please contact AMSA.*

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# THE COMPREHENSIVE WATERSHED MANAGEMENT ACT OF 1993

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ASSOCIATION OF METROPOLITAN SEWERAGE AGENCIES  
MARCH 1993

*THE COMPREHENSIVE WATERSHED MANAGEMENT ACT OF 1993*

The Comprehensive Watershed Management Act of 1993  
 March 1993

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OVERVIEW & PRINCIPAL TENETS

**THE COMPREHENSIVE WATERSHED MANAGEMENT ACT OF 1993****\*\* AN OVERVIEW \*\*****BACKGROUND**

The Clean Water Act's historic focus on technology-based standards, end-of-pipe treatment, aggressive compliance schedules and significant federal funding, has achieved enormous reductions in the pollutants discharged to our nation's waters. While this approach produced significant benefits, the future application of technology-based standards will not result in the same level of water quality improvements.

Achieving tomorrow's water quality successes will be far more challenging. Solutions will be less straight forward, funding more difficult and new players must play a role in solving problems.

As we look ahead to a reauthorized Clean Water Act, our focus must shift to a more comprehensive approach to clean water goals. Addressing the control of costly, more complex and diverse sources of pollution will require both creativity and flexibility. And attainment of water quality goals through pollution control and prevention will depend on a variety of individual decisions by local, state and federal agencies. Rising capital costs make it imperative that cost-effective alternatives for pollution control and prevention be fully analyzed and that comprehensive management strategies be established for prioritizing water quality decisions on a watershed-specific basis.

The Association of Metropolitan Sewerage Agencies (AMSA) shares with many others the vision of a new Clean Water Act. This vision begins with the preservation of our achievements of the past twenty years, proceeds with the identification of water quality and ecosystem health impairments, quantifies the point and nonpoint contributions of pollutants to major drainage systems or watersheds, and results in a comprehensive plan for each watershed -- all with the goal of moving toward the water quality improvements necessary to give us meaningful environmental benefit.

AMSA has taken on the task of crafting a federal legislative initiative, the Comprehensive Watershed Management Act of 1993, for two reasons. First and foremost, to facilitate the achievement of the goal of meaningful environmental benefits from water quality improvements and secondly, in response to requests from national policy makers to define the specific components of a comprehensive watershed management program that could be national in scope.

## Comprehensive Watershed Management Act

March 1993

Overview

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The vision contained in the Comprehensive Watershed Management Act of 1993 calls for the development of comprehensive watershed management plans with the participation of all levels of government, point sources, nonpoint sources, users of the watershed and citizens. Through the legislation, the reduction of pollutant loadings follows rationally from a scientific analysis of site-specific conditions and the technologies available to improve those conditions. Priorities are established based on the quality and use of receiving waters, ecosystem health, and the sources of pollutants damaging to those concerns.

AMSA believes that comprehensive watershed management planning must emphasize establishing priorities, maintaining flexibility and empowering local, regional and state government and the community to solve their unique problems. AMSA's comprehensive watershed management legislation provides:

- an institutional framework for developing watershed management strategies by creating watershed management commissions;
- a management framework for comprehensive watershed management planning by requiring a step-by-step evolution of policies, standards, requirements, plans and programs;
- a technical and scientific framework by identifying methods to evaluate, attain, monitor and maintain watershed-specific water quality objectives. This technical framework would emphasize appropriate point and nonpoint source controls and incentives, as well as financing plans to attain water quality objectives; and
- federal regulatory oversight and enforcement of locally-created comprehensive watershed management plans through the existing National Pollutant Discharge Elimination System (NPDES) program and other mechanisms.

### PROCESS

In February of 1992, AMSA's Board of Directors endorsed ongoing AMSA efforts on comprehensive watershed management. The Board's commitment to developing this concept was evidenced by the formation of a Comprehensive Watershed Management Committee and an assignment to that Committee to draft legislative language to establish comprehensive watershed management on a national scale.

Since that time this effort has proceeded, supported by the participation of AMSA's membership and a wide variety of outside organizations and entities. A significant compo-

Comprehensive Watershed Management Act  
March 1993  
Overview  
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ment in the development of this legislation has been a concerted effort to not only build consensus on this issue within AMSA's membership nationally, but also to reach out to a diverse array of organizations and entities that would be affected by its passage. This effort to build coalitions and reach consensus recognizes that by vesting regional environmental planning at the local and state level, the management responsibilities fall to the people who know the problems best, who can focus attention on their resolution, and who have a stake in seeing the problem solved.

In mid-January of 1993, and again in early February, AMSA's draft legislative language was discussed at meetings of AMSA's leadership. In numerous meetings with other interested parties, comments were received from a wide variety of points of view.

**PRINCIPAL TENETS**

AMSA's leadership adopted the following principal tenets to guide the development of the Comprehensive Watershed Management Act of 1993:

**PRINCIPAL TENETS OF THE  
COMPREHENSIVE WATERSHED MANAGEMENT ACT OF 1993**

**Adopted by AMSA's Board of Directors  
February 4, 1993**

1. The overall objective of comprehensive watershed management planning is to make cost-effective, site-specific decisions that achieve water quality objectives that protect the designated beneficial uses of a watershed.
2. Science must be the basis for public policy decisions.
3. All players must be at the table to equitably address future water quality objectives.
4. Local government and publicly-owned treatment works must have an active role in establishing water quality objectives for the watersheds in the which they are located.
5. Local stakeholders (government entities, sources of watershed impacts, users of the resources within the watershed, the public and others with a specific interest in how the watershed is managed) must have the clearly stated opportunity to provide recommendations and direct advice and counsel to the Governor regarding the designation of their watershed boundaries and the makeup of its Commission.
6. Progress on water quality improvement, including minimum standards of operation (MSOs), must continue as comprehensive watershed management planning moves forward. Until a watershed management plan is completed, permitting agencies that are responsible for National Pollutant Discharge Elimination System (NPDES) permits must take into account those sources within a watershed that cause water quality impairment and must accordingly exercise flexibility and discretion in exerting their regulatory authority in setting effluent limits and compliance schedules, and in conducting enforcement activities.
7. Time frames for completing a comprehensive watershed management plan must be realistic.
8. Implementation of elements of the comprehensive watershed management plan must be verified and enforced to assure equity among all sources or categories of sources of pollutants of concern in a watershed.

**Comprehensive Watershed Management Act****Principal Tenets**

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9. The scheduling of compliance with Clean Water Act requirements and prioritization of resources to achieve water quality objectives shall be guided by watershed plans. One expected outcome of an approved watershed management plan is that NPDES terms, conditions and limits shall be modified as appropriate to cost-effectively achieve the water quality objectives of the plan.
10. Comprehensive watershed management planning and the federal/state legislative and regulatory framework shall be compatible and fully integrated.

## SECTION-BY-SECTION ANALYSIS

**SECTION-BY-SECTION ANALYSIS/RATIONALE**

The following provides a section-by-section analysis of the legislative language accompanied by the rationale (where appropriate) that served as the basis for specific sections.

**SECTION 1. SHORT TITLE.**

The Comprehensive Watershed Management Act 1993.

**SECTION 2. FINDINGS.**

Presents twelve findings which support the implementation of a national comprehensive watershed management planning process.

**SECTION 3. COMPREHENSIVE WATERSHED MANAGEMENT.**

Amends the Federal Water Pollution Control Act by adding a new Section 321 providing for the implementation of a national watershed management planning process.

**DEFINITIONS --**

Defines the key words contained in the legislation. Definitions are provided for watershed, pollutant of concern, minimum standard of operation, waterbody segment and significant contributor.

**DESIGNATION OF WATERSHEDS --**

Provides for the review of all watersheds within the State, by the Governor, followed by the designation of specific watersheds for watershed management planning (no sooner than 6 months nor later than 12 months after enactment). The criteria for designating and establishing the priority rank in which watersheds are addressed is guided by the need for integrated management of point and nonpoint sources, and other activities impacting water quality, in order to attain or maintain water quality protective of the designated uses of the watershed. The designation of interstate, tribal land and international border watersheds are addressed. Requires the Governor to review the designations, not less frequently than every five years, of the watersheds appropriate for comprehensive watershed management. Solicitation and opportunities for meaningful public participation are provided.

**Rationale:**

As much flexibility as possible was intentionally crafted into this section in an effort to allow the Governor the ability to recognize past successes and existing institutions. The timing of the designation process was crafted in such a way as to allow local stakeholders the opportunity to directly petition the Governor with specific recommendations for watershed designations. It should be noted that point and nonpoint sources in areas outside of the designated watersheds would not fall under the purview of this legislation.

#### PRIORITY RANKING OF WATERSHEDS --

Established three classes of assigned priority for watersheds, Class A, Class B and Class C. Ongoing impairment of designated uses, areas of unique biological significance and existing water quality standards in need of revisions are to be considered by the Governor in assigning priority. Waters listed under Sections 303(d), 304(l), 305(d) and 319(a) of the Clean Water Act are also to be considered in this process.

##### **Rationale:**

The establishment of three classes of ranked watersheds provides for the deliberate, measured initiation of the watershed planning process. Concerns have been expressed with regard to the potential for resource and management problems should all designated watersheds commence planning activities simultaneously. This iterative process has been developed in response to those concerns, providing for the staggered initiation of watershed planning activities.

#### WATERSHED MANAGEMENT COMMISSIONS --

Provides for the appointment of Watershed Management Commissions for Class A watersheds (not later than 6 months after designation), Class B watersheds (not later than 24 months after designation) and Class C watersheds (not later than 48 months after designation). The Commissions are tasked with the development of comprehensive watershed management plans. The membership of the Commissions shall be broadly-based, not exceed 25 members and shall have representatives of the permitting agency, local government, state government, the environmental community, the scientific community, categories of significant point sources, categories of significant nonpoint sources, categories of significant watershed users, U.S. Environmental Protection Agency regional offices, the U.S. Department of Agriculture, when appropriate, and others deemed appropriate. Provisions have been made for the Governor to designate, where they already exist, watershed planning or management panels, conferences, commissions, authorities or similar entities to assume responsibility for comprehensive watershed management. In cases where the Governor(s) fail to appoint a Commission, the Administrator shall intervene.

##### **Rationale:**

In developing this section, AMSA was particularly cognizant of the need to make the Commissions as inclusive as possible of all stakeholders in the watershed, while maintaining a number of members that would not prove to be unmanageable. This section was made quite prescriptive to ensure the inclusion of key stakeholders. AMSA envisions a significant role on the Commissions for local stakeholders, with special consideration given to those agencies within the watershed that now have, and

will have, planning, implementation and enforcement responsibilities under the watershed management plan.

#### **WATERSHED MANAGEMENT PLANS --**

Calls for watershed management plans to be initiated for prioritizing and implementing water quality improvements sufficient to achieve or maintain that water quality which protects the designated uses of the watershed. These plans shall be utilized by the State or Administrator in prioritizing and implementing water quality improvements. The planning process will include a review of pollutants of concern, a source survey, a water resources survey, use attainability analyses (if appropriate), prioritization of concerns and sources, Phase I and Phase II Minimum Standards of Operation and an Action Plan. Planning activities are executed by the Commission, with support from the State(s). Opportunities for public comment, throughout the development of the plan, are provided.

#### **Rationale:**

The Action Plan is the actual "product" of the planning process. Once adopted, the plan serves as the "contract" for government, stakeholders, sources and the public to manage the watershed.

#### **REVIEW OF POLLUTANTS OF CONCERN -**

Provides for a review of existing sources of information to identify pollutants of concern.

#### **SOURCE SURVEY -**

Provides for a survey of all significant sources or categories of sources of pollutants in the watershed to take place, based primarily on existing data sources. These sources are anticipated to include direct discharges, publicly-owned treatment works, stormwater discharges, mining waste, silvicultural and agricultural run-off, urban run-off, air-borne sources and resuspended sediment. The purpose of the survey is to determine the contribution of pollutants of concern from each source. All sources are to be consulted in this process and provided with the results of the survey. If data are insufficient, provisions have been made for additional baseline sampling and monitoring to occur.

#### **WATER RESOURCES SURVEY -**

Provides for the Commission to characterize the existing conditions of the water resources within the watershed. Such characterizations include surface water quality, groundwater quality, sediment conditions, habitat availability,

biological resources and the degree of impairment of designated uses.

**USE ATTAINABILITY ANALYSES -**

If it so chooses, the Commission may conduct, concurrent with the source survey and the water resources survey, use attainability analyses to characterize the physical, chemical, biological and hydraulic nature of selected waterbodies within the watershed. The information gathered from these analyses allows the Commission to propose revisions of designated uses and the development of site-specific criteria, consistent with the Clean Water Act. The scientifically-derived results of use attainability analyses shall provide the basis for policy and regulatory decision-making in the watershed.

**Rationale:**

The legislative language specifies that the Commission establish and approve the scope of any use attainability analysis that is undertaken. It is AMSA's intent that the presence of the permitting agency and EPA as active members of the Watershed Management Commissions, along with this provision requiring approval of the scope of any use attainability analysis, will provide needed confidence at the initiation of the analysis process and ensure the relevancy of the results of the analysis for watershed management planning.

**PRIORITIZATION OF CONCERNS AND SOURCES -**

Requires the Commission to identify and rank priority water quality concerns within the watershed and the pollutant sources or categories of sources having the greatest impact on the priority water quality concerns. As part of this process, the Commissions may, with appropriate supporting documentation, recommend revisions to the State regarding the priority ranking of waters under Section 303(d), the listing of waters under Section 304(l) and the identification of waters under Section 305(b) and Section 319(a) of the Clean Water Act. Provisions are provided for the State to revise the listings to ensure their consistency with the priority rankings.

**PHASE I MINIMUM STANDARDS OF OPERATION -**

Provides for the acknowledgment and endorsement of baseline level (Phase I) minimum standards of operations (MSOs) for significant sources in the watershed to occur within six months after the Commission's appointment. MSOs shall include best management practices or other measures currently included in federal and state legislation, regulation, guidance and policies.

**Rationale:**

Numerous adopted and emerging pollutant management practices are required by current state and federal law. In implementing these requirements, some of the entities that are significant sources within the watersheds are taking the first important steps toward management of their waterbodies. This acknowledges existing law, allows progress to continue, places the Commission's planning process in the context of these practices and serves as the baseline upon which future Phase II MSOs will be developed.

**PHASE II MINIMUM STANDARDS OF OPERATION -**

Provides for the development of guidance for Phase II MSOs for the sources or categories of sources of pollutants of concern. These MSOs may include any combination of pollutant management practices that encompass the broad range of source reduction, recycling and control technology practices. The provision provides that site-specific Phase II MSOs are developed for each watershed. Phase II MSOs are to be developed within 30 months of the appointment of the Commission and are subject to adoption by the State and Administrator to the extent that they are not inconsistent with other provisions of state and federal law. Not later than 12 months after development by the Commission, sources must initiate implementation. The Commissions, after consultation with the sources, are tasked with establishing schedules for implementation and compliance of not longer than a maximum of 3 years. Where Phase II MSOs are to be implemented, numeric effluent limits may not be necessary where the other conditions of the MSOs will maintain water quality objectives. The opportunity for public notice and comment with regard to the Phase II MSOs is provided.

**Rationale:**

The Phase II MSOs are adopted, and implementation initiated, before the comprehensive watershed management plans are completed and adopted. Sufficient information will be available during the 30 months following the Commission's appointment for the Commission to identify and establish site-specific MSOs for all significant sources. The listing of possible Phase II minimum standards "to be considered" by the Commissions, is just that -- a list for their consideration as they assess their particular site-specific variables. The language is not prescriptive in this regard.

**ACTION PLAN -**

Provides for the completion and approval of an action plan, by the

Commission, not later than 42 months after the appointment of the Commission. Components of the action plan are prescribed in the provision and include a description of designated uses by waterbody segment, water quality standards necessary to attain or maintain those uses, a priority ranking of sources and classes of sources of pollutants and impediments, revised Phase II MSOs, a description of control options, waste load allocations, compliance schedules, measures and policies to verify and enforce the plan and a description of funding methods. A two-thirds majority vote of all members of the Commission is required for approval.

**Rationale:**

All of the work, study and insight that the Commission has developed will result in a comprehensive long-term plan to manage the water resources of the watershed. The "product" of the process is the Action Plan that will guide water quality improvement activities. The components of the Plan provides all the methods and mechanisms necessary to ensure that "promises made are promises kept".

**FAILURE TO COMPLETE WATERSHED MANAGEMENT PLANS --**

In the event the Commission fails to complete any element of the watershed management plan, this section provides for the Administrator to either extend the time frame for completion of the plan (for no more than 24 month) or employ other sections of the Clean Water Act as are appropriate to protect water quality in the watershed. The opportunity for public comment with regard to the Administrators course of action is provided.

**COST ALLOCATION --**

Requires significant sources, or categories of sources, to share equitably the costs of implementing the requirements of the plan. Under this provision, no source or category of sources will be required to bear a disproportionate share of these costs.

**Rationale:**

It is envisioned that all stakeholders in the watershed will be invested in both the development and the plan and its implementation. To this end the language establishes a shared distribution of the costs. The use of the word "equitable" in this provisions is not intended to mean an assignment of costs directly equivalent to each source's percentage contribution of pollutants. Instead, the intent is that cost allocations will be based upon a proportionate share of the total costs as determined by the Commission. The legislation is not prescriptive as to the mechanism through which this should be established, but allow flexibility to the Commission in

determining what is appropriate. Previously incurred costs, by any source or category of sources, have no bearing or relevance to this process.

#### **ADOPTION OF ACTION PLANS --**

Requires the Commission to submit the watershed management plan to the State and the Administrator for adoption. The State and Administrator shall adopt the plan to the extent that it is not inconsistent with other provisions of state and federal law.

##### **Rationale:**

Because the State and the Administrator are vested with regulatory authority to oversee and enforce the Clean Water Act and state laws designed to protect public health and the environment, it is necessary that they formally adopt the Plan. Through their direct participation in the Commission, the State and the Administrator will have direct knowledge and confidence in the Plan. The inclusive and consensus-building approach that is explicit in the process described by the Comprehensive Watershed Management Act of 1993, enables them to adopt it as a sound and equitable plan.

#### **IMPLEMENTATION & SCHEDULES --**

Requires the State and Administrator to initiate implementation of the Action Plan, including the schedules provided in the Plan. Plan implementation for point sources is to be based upon NPDES permits. Other sources or categories of sources are to undertake implementation in accordance with authorities available to the State under both state and federal law.

##### **Rationale:**

AMSA acknowledges the importance of the fact that the requirements of the comprehensive watershed management Action Plans be able to be verified and enforced to assure continued equity. In the case of point sources, the ability to verify and enforce would find its foundation in the NPDES permitting program.

#### **REVIEW OF WATER QUALITY STANDARDS & DESIGNATED USES IN THE WATERSHED --**

Requires the Commissions to periodically review and make recommendations to the State with respect to the establishment and revision of water quality standards, including designated uses and water quality criteria. The Commission's recommendations shall be based on an evaluation of the current conditions of water resources, taking into account previous surveys and use attainability analyses, and considering technological and economic capabilities of sources or impediments to meet water quality objectives. It requires baseline conditions to be established by the

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Commission to prevent any additional significant impairment of designated uses or biotic resources. The State, in conducting its triennial review and revision of water quality standards under Section 303(c) of the Clean Water Act, is to ensure that the standards are consistent with the applicable watershed management plan. Additionally, the Administrator is required to review the recommendations adopted by the State and defer to the determinations of the Commissions unless they are contrary to the Act.

**Rationale:**

In recognition of the science-based data collection and monitoring efforts that will play a major role in the watershed planning process, it is simply appropriate that the findings of the plan process guide review of water quality standards and designated uses.

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMITS --**

Calls for the watershed management plans to contain recommendations to the permit issuing authority for revisions to the terms, conditions and schedules for compliance provided in permits issued under Section 402 of the Clean Water Act, incorporating the requirements and schedules in the watershed management plan. When existing permits are inconsistent with the priority identification and ranking provided in the plan, the permit issuing authority shall modify permits to be consistent with the plan. The permit issuing authority, in the exercise of any enforcement action, is required to take into consideration, information developed that describes the control options that will achieve or help to achieve water quality standards that will attain and maintain designated uses.

**Rationale:**

One expected outcome of an approved watershed management plan is that National Pollutant Discharge Elimination System terms, conditions and limits will be modified to achieve the water quality objectives of the plan. It should be recognized, however, that this could result in either more stringent or less restrictive requirements.

**PERIODIC REVIEW OF WATERSHED MANAGEMENT PLANS --**

Requires review of watershed management plans to occur within 5 years following adoption of the plan, and not less than every 10 years thereafter. Specific components of the review process and the appropriate considerations for revisions are set forth in the legislative language.

**Rationale:**

Conditions and information available within a watershed will be forever undergoing

change. New sources, improved control technology, improved monitoring techniques, shifting public values and unanticipated factors will mean that today's decisions may not be relevant or effective for tomorrow's conditions. For this reason, it is important to re-evaluate water quality standards, designated uses and the watershed plans on a regularly scheduled basis. This will help ensure that the watershed is managed and protected in the most optimal manner possible.

#### GRANTS & COOPERATIVE AGREEMENTS --

Authorizes the Administrator to make grants to, or enter into cooperative agreements with, States and interstate agencies designated as Commissions and other federal agencies to support the costs of developing and periodically reviewing watershed management plans. Grants or cooperative agreements are not to exceed 75% of the total cost of the program. Gives the States responsibility, in consultation with the Commissions, to establish appropriate means for sources or categories of sources to supplement federal monies in funding the plans.

##### **Rationale:**

This provision is intended to place a large measure of the funding responsibility for adequate watershed planning on the Administrator. Financially supporting those important planning activities will be a key to their success. AMSA recognizes that there are significant differences in the institutional and financial realities of the states. For this reason, flexibility is provided to the states in funding their share of the planning activities.

#### COMPLIANCE WITH THE ACT --

Emphasizes that the provisions do not relieve any source or category of sources from obligation to comply with any other requirement imposed by the Clean Water Act, or with permits issued pursuant to this Act.

##### **Rationale:**

AMSA envisions this provision to allow Clean Water Act requirements to continue throughout the watershed management planning process with the clear acknowledgement that regulatory agencies, by virtue of the active participation on the Commissions, will have the understanding and appreciation of circumstances within the watershed to exercise the maximum amount of enforcement discretion possible, being guided by the scientific data and information that becomes available as the planning process evolves.

#### CONSISTENCY WITH STATE WATER ALLOCATIONS --

Clarifies that the provisions of the new Section 321, or the resulting Action Plans, do

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not supersede, abrogate or impair the authority of States to allocate quantities of water.

#### **AUTHORIZATION OF APPROPRIATIONS --**

Authorizes funds to be appropriated at such sums as are necessary to develop and craft watershed management plans for fiscal years 1994, 1995, 1996, 1997 and 1998.

##### **Rationale:**

Federal funding is provided in the legislation for the comprehensive watershed management planning process only. The costs resulting from the implementation of the plan are funded by all significant sources or categories of sources causing impairment of designated uses in the watershed. Costs are to be shared in an equitable manner, with no source or category of sources being required to bear a disproportionate share. Again, the language is crafted to provide both support for all stakeholders and flexibility among those stakeholders, within the context of the Commission, in allocating costs to each significant source or category of sources with regard to comprehensive watershed management plan implementation activities.

#### **SECTION 4. PERMIT CONSISTENCY.**

Amends the Clean Water Act to provide for ten year permit periods for permittees in designated watersheds. Additionally amends the Clean Water Act to allow for permits to be renewed, reissued or modified in a manner consistent with the developed watershed management plans without violating the anti-backsliding provisions of the Act.

##### **Rationale:**

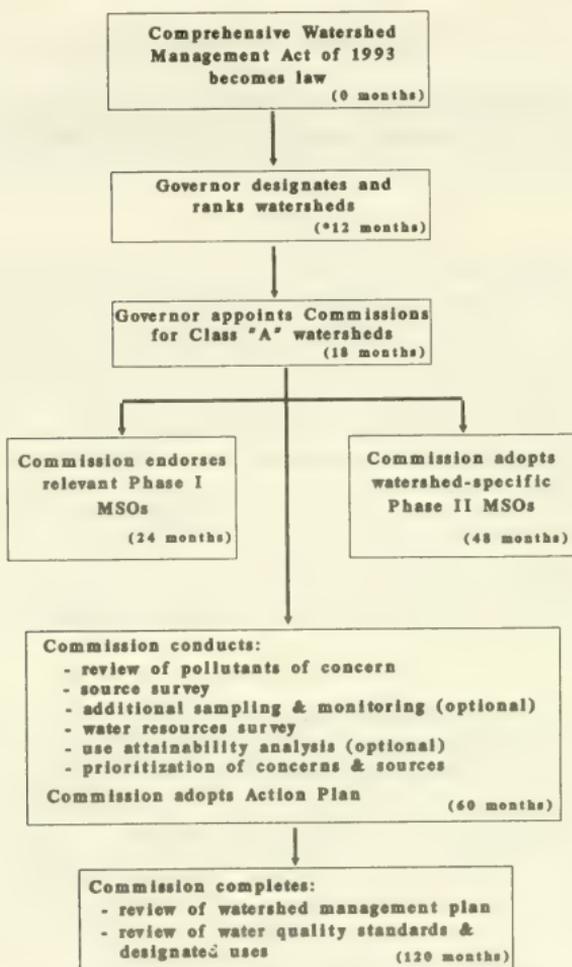
This section provides for two significant amendments to the Act. Of particular significance is the addition, by amendment, of a new exception to the anti-backsliding provisions of the Act. This will allow revisions to permits in a manner consistent with the recommendations made as a result of the data collection and monitoring undertaken as part of the watershed management planning process. Additionally, such an amendment is consistent with other anti-backsliding exceptions which reference the availability of new information or data that was not available at the time permit requirements were established.

COMPREHENSIVE WATERSHED MANAGEMENT  
PLANNING PROCESS FLOW CHART

# The Comprehensive Watershed Management Act of 1993

## Timeline

(Class "A" watershed as example)



Months shown are cumulative

\*Deadline to complete task after the Comprehensive Watershed Management Act of 1993 becomes law

**LEGISLATIVE LANGUAGE**

March 11, 1993

103d CONGRESS  
1st SESSION

H.R. \_\_\_\_\_

To amend the Federal Water Pollution Control Act to establish a program of comprehensive watershed management, and for other purposes

\_\_\_\_\_  
IN THE HOUSE OF REPRESENTATIVES

\_\_\_\_\_, 1993

Mr./Ms. \_\_\_\_\_ (for himself/herself, \_\_\_\_\_) introduced the following bill which was referred to the Committee on \_\_\_\_\_.

\_\_\_\_\_  
A BILL

To amend the Federal Water Pollution Control Act to establish a program of comprehensive watershed management, and for other purposes.

1 *Be it enacted by the Senate and House of Representatives of*  
2 *the United States of America in Congress assembled,*

3 **SEC. 1. SHORT TITLE AND TABLE OF CONTENTS.**

4 (a) **SHORT TITLE.** ----This Act may be referred to as the  
5 "Comprehensive Watershed Management Act of 1993."

1 (b) TABLE OF CONTENTS. ----The table of contents for this Act  
2 is as follows:

3 Table of Contents  
4 Sec. 1. Short title and table of contents.  
5 Sec. 2. Findings.  
6 Sec. 3. Comprehensive watershed management.  
7 Sec. 4. Permit Consistency.

8 **SEC. 2. FINDINGS.**

9 The Congress finds that ---

10 (1) the nation has made a substantial investment in the  
11 protection and enhancement of water quality in its navigable  
12 waters;

13 (2) much of this investment has been targeted at the  
14 improvement of water quality in receiving waters through the  
15 application of treatment technology by municipal and industrial  
16 point source dischargers;

17 (3) this investment in treatment technology has resulted in  
18 substantial progress in meeting our Nation's clean water goals;

19 (4) there is great benefit to be achieved through directing  
20 efforts and funds toward measures that address the full range of  
21 point and nonpoint sources causing water quality impairments;

1 (5) environmental enhancement and economic considerations at  
2 all levels of government and in the private sector, require that  
3 further investment in water quality improvement be targeted first  
4 on those receiving waters most in need of protection, while  
5 preserving previously achieved designated uses in all receiving  
6 waters, and that priority attention be focused on those causes of  
7 impairments which most threaten the attainment and maintenance of  
8 designated uses of such waters;

9 (6) the goals of the Clean Water Act can be best achieved by  
10 integrating the existing requirements of the Act with priorities  
11 established in comprehensive watershed management plans;

12 (7) further progress in the control of water pollution  
13 requires that comprehensive plans for watersheds include a fair and  
14 equitable distribution of the costs and burdens of further water  
15 quality improvement;

16 (8) rising costs make it imperative that appropriate  
17 management alternatives including pollution control and prevention  
18 be fully analyzed and that a comprehensive management strategy  
19 resulting from this analysis be established for prioritizing and  
20 scheduling water quality decisions on a watershed-specific basis;

1           (9) effective stewardship of a watershed depends upon the  
2 full participation of local stakeholders including local  
3 government, the public and those agencies that manage the various  
4 water and wastewater infrastructure systems, during the processes  
5 of evaluation, prioritization and management of the resources  
6 within the watershed;

7           (10) substantive and ongoing public participation is critical  
8 to effective watershed management;

9           (11) comprehensive watershed management is consistent with  
10 the Clean Water Act's provisions supporting comprehensive planning  
11 and recognizing the varying factors in each watershed which affect  
12 water quality; and

13           (12) comprehensive watershed management can result in the  
14 most effective and least costly approach to safeguarding and  
15 improving water quality.

16 **SEC. 3        COMPREHENSIVE WATERSHED MANAGEMENT.**

17           The Federal Water Pollution Control Act is amended by adding  
18 after Section 320 thereof the following new section:

1        SEC. 321 COMPREHENSIVE WATERSHED MANAGEMENT. ---

2            (a) DEFINITIONS. ---

3            (1) WATERSHED. - For the purposes of this section,  
4            the term 'watershed' is defined as one or more hydrologic  
5            units, identified by the Governor(s) to be appropriate  
6            for water quality planning, within which waters flow or  
7            drain into one or more rivers, bays, lakes or estuaries.

8            (2) POLLUTANT OF CONCERN. - For the purposes of this  
9            section, the term 'pollutant of concern' is defined as a  
10           chemical, material or physical property that is of  
11           sufficient concentration, mass or intensity to interfere  
12           with or be reasonably expected to interfere with the  
13           attainment or maintenance of designated uses in the  
14           watershed, or downstream from the watershed.

15           (3) MINIMUM STANDARD OF OPERATION. - For the  
16           purposes of this section, the term 'minimum standard of  
17           operation' is defined as any combination of pollution  
18           prevention, control technology, recycling or other  
19           measures employed to prevent the release, or reduce the  
20           amount released, of one or more pollutants of concern.

1           (4) WATERBODY SEGMENT. - For the purposes of this  
2 section the term 'waterbody segment' is defined as a  
3 subpart of a hydrologic unit consisting of all or a  
4 portion of a stream, river, lake, estuary or coastal  
5 region that, because of its characteristic hydrologic,  
6 biotic, water, or habitat qualities causes it to be  
7 distinct with respect to the qualities of an adjoining  
8 waterbody segment.

9           (5) SIGNIFICANT CONTRIBUTOR. - For the purposes of  
10 this section the term 'significant contributor' is  
11 defined as a person, corporation, government entity or  
12 activity that produces or causes to be produced a  
13 pollutant of concern which enters waters in sufficient  
14 amounts to impair or can be reasonably anticipated to  
15 impair a designated use of a watershed or an activity,  
16 practice or condition which impairs the designated use of  
17 a watershed.

18           (b) DESIGNATION OF WATERSHEDS. --- Not sooner than six  
19 (6) months nor later than twelve (12) months after enactment  
20 of this section, the Governor of each State, shall review all  
21 watersheds in the State, soliciting the advice and counsel of  
22 affected entities, and after solicitation and opportunities  
23 for meaningful public participation, shall designate the  
24 boundaries and the priority rank of the watersheds or portions

1           thereof within the State for comprehensive watershed planning  
2           in which the attainment or maintenance of water quality which  
3           protects the designated uses of the watershed requires  
4           integrated management of point and nonpoint sources and other  
5           activities which may affect water quality. The priority  
6           ranking of a watershed shall be in accordance with subsection  
7           (c). In the case of interstate watersheds, the Governors of  
8           each affected State shall confer prior to the designation of  
9           such watersheds, and wherever possible, jointly designate such  
10          watersheds for management on an interstate basis. In the case  
11          of watersheds within or including tribal lands, the  
12          Administrator shall coordinate watershed designation between  
13          the State and the tribal government. In the case of  
14          watersheds that cross an international border, the  
15          Administrator shall coordinate watershed designation between  
16          the State and the federal commission established to oversee  
17          boundary water quality issues. The Governor shall review the  
18          designations not less frequently than every five (5) years  
19          thereafter, the watersheds appropriate for comprehensive  
20          watershed management. In the event that the Governor of a  
21          State, or the Governors of each affected State in the case of  
22          interstate watersheds, fail(s) to identify or designate any  
23          watershed(s) in the State or States, then the Administrator  
24          shall, within six (6) months of such failure and after notice  
25          and opportunity for public comment designate the watershed(s)  
26          within the State or States(s).

1 (c) PRIORITY RANKING OF WATERSHEDS. --- Watersheds shall  
2 be assigned priority ranking using up to three classes  
3 referred to, for purposes of this section, as Class A, Class  
4 B and Class C. Not less than twenty-five (25) percentum of  
5 the land area of a State shall be ranked Class A. Not less  
6 than twenty-five (25) percentum of the land area of a State  
7 shall be ranked Class B unless more than seventy-five (75)  
8 percentum of land area of a State is ranked Class A. Ranking  
9 shall be established by the Governor after taking into account  
10 ongoing impairment of designated uses, areas of unique  
11 biological significance, existing water quality standards in  
12 apparent need of revision and other relevant factors  
13 considered relevant by the Governor, including consideration  
14 of waters identified or listed under Sections 303(d), 304(l)  
15 305(d) and 319(a) of this Act and after notice and public  
16 comment.

17 (d) WATERSHED MANAGEMENT COMMISSIONS. --- Not later  
18 than six (6) months after the designation of a Class A  
19 watershed and not later than twenty-four (24) months after the  
20 designation of a Class B watershed and not later than forty-  
21 eight (48) months after designation of a Class C watershed  
22 under subsection (b) of this section, the Governor shall  
23 appoint a Watershed Management Commission to develop  
24 comprehensive watershed management plans for one or more  
25 designated watersheds. Any new Commission so appointed shall,

1 as a minimum, be comprised to represent the broad interests  
2 within a watershed, shall include not more than twenty-five  
3 (25) members and shall have as members representatives of each  
4 of the following: the permitting agency, local government,  
5 state government, the environmental community, the scientific  
6 community, categories of significant point sources including  
7 POTWs, categories of significant nonpoint sources, categories  
8 of significant watershed users including public water supply,  
9 U.S. Environmental Protection Agency regional office(s), the  
10 U.S. Department of Agriculture when appropriate and others  
11 deemed appropriate by the Governor. In the case of  
12 international watersheds the federal interboundary commission  
13 shall be represented. In the case of watersheds containing  
14 tribal lands, a tribal council representative shall be a  
15 member. In the case of interstate watersheds, the Governors  
16 of each affected State shall jointly appoint such Commissions.  
17 Where water quality planning or management panels,  
18 conferences, commissions, authorities or similar entities are  
19 in existence prior to the enactment of this section or have  
20 been previously defined by state statute, the Governor or  
21 Governors may designate such entities, with change to their  
22 existing composition to encompass, to the extent practicable,  
23 the representation enumerated in this subsection to assume the  
24 responsibility for comprehensive watershed management under  
25 this section. In designating Commissions the Governor shall  
26 consider the ongoing efforts of existing organizations and

1 agencies managing water quality programs within the watershed  
2 and shall, to the greatest extent practicable, include them in  
3 the Commission. In the event that the Governor of a State, or  
4 the Governor of each affected State in the case of interstate  
5 watersheds, fail(s) to appoint a Commission, then the  
6 Administrator shall, within six (6) months of such failure and  
7 after notice and opportunity for public comment appoint the  
8 Commission in accordance with the representation enumerated in  
9 this subsection. A Commission may create committees or other  
10 bodies comprised in whole or in part of non-Commission members  
11 for the purposes of conveying information and receiving  
12 advice.

13 (e) WATERSHED MANAGEMENT PLANS. --- Each Watershed  
14 Management Commission appointed or designated under subsection  
15 (d) of this section shall develop a comprehensive watershed  
16 management plan for each designated watershed, which plan  
17 shall be utilized by the State, or the Administrator, in  
18 prioritizing and implementing water quality and other  
19 improvements designed to achieve or maintain that water  
20 quality which protects the designated uses of the watershed.  
21 It is the responsibility of the State(s) to support the  
22 Commission in the development of the plans and to establish  
23 appropriate means to provide support of the kind and amounts  
24 that are required to enable the Commissions to conduct their  
25 work. The Commission shall provide appropriate opportunities

1 for substantive public participation during the development of  
2 the plan. Such plans shall include, at a minimum, all of the  
3 following elements ---

4 (1) REVIEW OF POLLUTANTS OF CONCERN. --- The  
5 Commission with support of the State(s), shall complete  
6 a review of existing sources of information to identify  
7 pollutants of concern present in the watershed. The  
8 Commission shall review and consider for utilization to  
9 the greatest extent possible, relevant data contained in  
10 reports completed in accordance with Sections 303(d) and  
11 305(b) of this Act.

12 (2) SOURCE SURVEY. --- The Commission, with  
13 support of the State(s), shall complete a survey of all  
14 significant sources, or categories of sources of  
15 pollutants of concern within the watershed, including but  
16 not limited to direct discharges, publicly-owned  
17 treatment works, stormwater discharges, mining waste,  
18 silvicultural and agricultural run-off and drains, urban  
19 run-off, air-borne sources, resuspended sediment and  
20 other nonpoint sources within the watershed. The purpose  
21 of such survey shall be to determine the contribution of  
22 pollutants of concern from each of the sources or  
23 categories of sources in the watershed. All sources or  
24 categories of sources contributing to the pollutant

1 loading of the watershed shall be consulted in compiling  
2 the baseline data needed to determine the pollutant  
3 contribution of each individual source, or category of  
4 source, of the watershed. The results of the watershed  
5 survey shall be made available to all significant sources  
6 or categories of sources surveyed, and to the general  
7 public. Where the Commission with support of the  
8 State(s) and after opportunity for public comment  
9 determines that there is insufficient data available to  
10 properly document the sources and extent of pollutant  
11 loadings within the watershed, or the relative magnitude  
12 of such pollutant loadings from between and among  
13 significant sources or categories of sources, then the  
14 Commission with support of the State(s) shall undertake,  
15 or cause to be undertaken, additional baseline sampling  
16 and monitoring of pollutants within the watershed to  
17 determine the relative contribution of such pollutants.  
18 The results of such additional baseline sampling and  
19 monitoring shall be made available to significant sources  
20 or categories of sources, and to the general public.

21 (3) WATER RESOURCES SURVEY. --- The Commission  
22 with support of the State(s) shall characterize existing  
23 conditions of the water resources within the watershed.  
24 The characterization shall include surface water quality,  
25 ground water quality, sediment conditions, habitat

1           availability, biological resources, and the degree of  
2           impairment of designated uses.

3                   (4) USE ATTAINABILITY ANALYSES. --- the Commission  
4           may conduct concurrently with paragraphs (2) and (3) use  
5           attainability analyses in the watershed, using up-to-date  
6           and validated field data, to characterize the physical,  
7           chemical, biological, and hydraulic nature of selected  
8           waterbodies in the watershed; and may propose to the  
9           State a revision of designated uses and develop site-  
10          specific criteria, consistent with the Clean Water Act,  
11          as may be appropriate based upon the verifiable  
12          conclusions of the use attainability analyses. The  
13          Commission shall establish and approve the scope of use  
14          attainability analyses. Such use attainability analyses  
15          shall provide the data on the pollutants and/or practices  
16          of concern, their sources, and their impacts upon water  
17          quality and the designated uses of the watershed. The  
18          scientifically-derived results of the comprehensive use  
19          attainability analyses shall provide the basis for policy  
20          and regulatory decision-making in the watershed, but  
21          without prejudice against the adoption of more far-  
22          reaching goals by the Commission. The Commission shall  
23          provide appropriate opportunities for substantive public  
24          participation on the scope of the use attainability  
25          analyses.

1 (5) PRIORITIZATION OF CONCERNS AND SOURCES. ---

2 Based on the review and surveys, including any additional  
3 baseline sampling and monitoring and use attainability  
4 analyses conducted under paragraphs (1) through (4) of  
5 this subsection, the Commission with support of the  
6 State(s) shall, after completion of such reviews, surveys  
7 and use attainability analyses, and after notice and  
8 opportunity for public comment, identify and rank ---

9 (A) the priority water quality concerns  
10 within the watershed, taking into account those  
11 water quality problems posing significant risks to  
12 human health and the environment and interfering  
13 most substantially with designated uses within the  
14 watershed, and

15 (B) the pollutant sources, or categories of  
16 sources, including specific point and nonpoint  
17 sources, and impediments and persons responsible  
18 for them, having significant impacts on priority  
19 water quality concerns within the watershed.

20 In identifying and prioritizing concerns under this  
21 paragraph, the Commission shall review and consider, and  
22 where appropriate, either incorporate relevant findings  
23 of, or recommend revisions to the State, regarding the

1 priority ranking of waters under section 303(d), the  
2 listing of waters under section 304(1) and the  
3 identification of waters under section 305(b) and section  
4 319(a) of this Act. The Commission shall determine if  
5 the basis upon which these existing listings were made is  
6 consistent with the basis upon which priority rankings  
7 were made under this paragraph, and if there are  
8 inconsistencies revise such listings to be consistent  
9 with the priority rankings after notice and opportunity  
10 for public comment.

11 (6) PHASE I MINIMUM STANDARDS OF OPERATION.---

12 Within six (6) months after its appointment, the  
13 Commission shall acknowledge and endorse those relevant  
14 best management practices or other measures currently  
15 included in federal and state legislation, regulation,  
16 guidance and policies, as the Phase I minimum standards  
17 of operation for each source or category of sources in  
18 the watershed. Phase I minimum standards of operation  
19 shall include, but may not be limited to, provisions,  
20 guidance or policy contained in, or resulting from,  
21 sections 208, 319 and 404 of this Act and the Coastal  
22 Zone Act Reauthorization Amendments of 1990.

23 (7) PHASE II MINIMUM STANDARDS OF OPERATION.---

24 Within thirty (30) months of the appointment of a

1 Commission, the Commission shall develop, after notice  
2 and opportunity for public comment, guidance outlining  
3 Phase II minimum standards of operation within the  
4 watershed for sources or category of sources of  
5 pollutants of concern. Phase II minimum standards of  
6 operation shall address priority concerns of the  
7 watershed while the Commission reviews watershed uses and  
8 water quality criteria and until a determination is made  
9 of waste load allocations and other management strategies  
10 to be set forth in the watershed management plan. These  
11 minimum standards of operation may include any  
12 combination of pollutant management practices that  
13 encompass the broad range of source reduction, recycling  
14 and control technology practices. These minimum  
15 standards of operation may include but are not limited  
16 to, nor are required to include the following:

17 (A) FOR DIRECT DISCHARGES ---

18 (i) any combination of economically and  
19 technologically feasible source reduction,  
20 recycling, treatment and water conservation  
21 practices that could significantly reduce  
22 pollutants of concern in the watershed;

- 1 (B) FOR STORMWATER DISCHARGES ---
- 2 (i) enhanced street sweeping,
- 3 (ii) wetlands preservation, restoration
- 4 and construction,
- 5 (iii) installation of buffer strips,
- 6 (iv) runoff detention/retention basins
- 7 to minimize first flush impacts,
- 8 (v) installation of technology to
- 9 encourage infiltration into the ground,
- 10 (vi) utilization of grassed waterways,
- 11 (vii) interception/diversion of
- 12 stormwater run-off,
- 13 (viii) installation of ground cover,
- 14 (ix) installation of sediment traps,
- 15 (x) establishment of streamside
- 16 management zones, and
- 17 (xi) vegetative stabilization/
- 18 mulching;

19 (C) FOR AGRICULTURAL RUN-OFF AND DRAINS ---

- 20 (i) wetlands preservation and
- 21 restoration,
- 22 (ii) animal waste management,
- 23 (iii) erosion control,
- 24 (iv) pesticide management,

1 (v) range and pasture management,  
2 (vi) utilization of effective sod-based  
3 rotation,  
4 (vii) utilization of terraces, and  
5 (viii) application of fertilizers and  
6 pesticides at rates and at times designed to  
7 meet agronomic and pest control needs while  
8 limiting runoff;

9 (D) FOR SILVICULTURE RUN-OFF ---

10 (i) wetlands preservation, restoration  
11 and construction,  
12 (ii) application of log removal  
13 techniques to limit run-off,  
14 (iii) effective pesticide/herbicide  
15 management,  
16 (iv) appropriate maintenance of haul  
17 roads,  
18 (v) effective removal of debris, and  
19 (vi) application of riparian zone  
20 management techniques;

21 (E) FOR MINING WASTE RUN-OFF AND DRAINS ---

22 (i) installation of underdrains, and

1 (ii) implementation of block-out or  
2 haul back practices.

3 The Commission shall submit to the State and the  
4 Administrator its Phase II minimum standards of  
5 operation. The State and the Administrator shall adopt  
6 the Phase II minimum standards of operation to the extent  
7 that they are not inconsistent with other provisions of  
8 state and federal law, respectively. Not later than  
9 twelve (12) months after development by the Commission of  
10 the Phase II minimum standards of operation, sources or  
11 categories of sources shall initiate implementation. The  
12 Commission shall, after consultation with the affected  
13 sources, establish schedules for implementation and  
14 compliance for each source or category of sources, but in  
15 no case may a compliance schedule of greater than three  
16 (3) years be specified for a source or category of  
17 sources. Such Phase II minimum standards of operation  
18 may be reviewed and revised by the Commission during the  
19 development of the Action Plan. Where Phase II minimum  
20 standards of operation are to be implemented, numeric  
21 effluent limits may not be necessary where the other  
22 conditions of the minimum standards of operation will  
23 maintain water quality objectives.

24 (8) ACTION PLAN. --- Not later than forty-two (42)  
25 months after appointment of the Commission and after

1 notice and opportunity for public comment an Action Plan  
2 shall be completed and approved by the Commission by a  
3 two-thirds majority vote of all members of the Commission  
4 that includes at a minimum the following components:---

5 (A) a description of the designated uses by  
6 waterbody segment within the watershed,

7 (B) the water quality standards necessary to  
8 attain or maintain the designated uses by waterbody  
9 segment within the watershed,

10 (C) a priority ranking of all sources or  
11 classes of sources of pollutants of concern and  
12 impediments within the watershed,

13 (D) revised Phase II minimum standards of  
14 operation, where appropriate, for each source or  
15 category of sources and impediments,

16 (E) a description of the various control  
17 options that will achieve or help to achieve water  
18 quality standards that will attain and maintain  
19 designated uses in the watershed that are available  
20 to these sources or classes of sources including  
21 expected reliability, capital costs, operating  
22 costs, energy requirements, expected cross media

1                    impacts and expected impacts of the control options  
2                    on the existing practices of the sources or  
3                    category of sources themselves,

4                    (F) waste load allocation, for each source or  
5                    category of sources, taking into account the  
6                    reductions expected to result from the Phase II  
7                    minimum standards of operation, that establishes  
8                    total maximum allowable daily discharges of  
9                    pollutants of concern necessary to achieve water  
10                    quality standards that will attain and maintain  
11                    designated uses in the watershed and that shall be  
12                    so established as to result, to the greatest extent  
13                    practicable, in the least net costs and cross media  
14                    impacts,

15                    (G) additional technically achievable and  
16                    cost effective controls required beyond minimum  
17                    standards of operation, where appropriate, for each  
18                    source or category of sources of point and nonpoint  
19                    sources, necessary to achieve the water quality  
20                    standards that will attain and maintain designated  
21                    uses in the watershed,

22                    (H) compliance requirements and schedules for  
23                    subparagraphs (E), (F) and (G) in accordance with  
24                    subsection (i),

1 (I) a description of the measures and  
2 policies to be employed by the permitting and  
3 regulatory agencies having jurisdiction within the  
4 watershed to verify and enforce subparagraphs (E),  
5 (F), (G) and (H), and

6 (J) a description of the methods to be  
7 employed within the watershed to fund subparagraphs  
8 (E), (F), (G), (H) and (I), in accordance with  
9 subsection (g).

10 (f) FAILURE TO COMPLETE WATERSHED MANAGEMENT PLANS. ---

11 In the event that a Commission fails to complete any element  
12 of the watershed management plan established by this  
13 subsection then the Administrator shall within twelve (12)  
14 months of the failure and after notice and opportunity for  
15 public comment either extend, for no more than twenty-four  
16 (24) months, the schedule for completion of any elements or  
17 employ those other Sections of this Act which are appropriate  
18 to protect water quality in the watershed. Further, if after  
19 proper notice and public comment it is determined that the  
20 Commission cannot act or chooses not to act in its capacities  
21 enumerated in this Section, then the Administrator may disband  
22 the Commission or appoint a new Commission.

23 (g) COST ALLOCATION.--- All significant sources or  
24 category of sources causing impairment of designated uses in

1 the watershed shall be required to share in an equitable  
2 manner the costs of achieving the requirements of the plan  
3 such that no source or category of sources shall be required  
4 to bear a disproportionate share of the costs of achieving the  
5 requirements of the plan, taking account of the share of the  
6 total pollutant of concern discharges affecting a given water  
7 body produced by a specific source or category of sources.

8 (h) ADOPTION OF ACTION PLANS. --- The Commission, after  
9 notice and opportunity for public comment, shall submit to the  
10 State and the Administrator the Action Plan. The State and  
11 the Administrator shall adopt the Action Plan, such plan shall  
12 not be inconsistent with or in any way less protective of the  
13 designated uses than other provisions of state and federal law  
14 respectively.

15 (i) IMPLEMENTATION AND SCHEDULES.--- The State and the  
16 Administrator shall initiate implementation of the Action  
17 Plan, including the schedules set forth therein. Actions to  
18 implement the plan for point sources shall be based upon NPDES  
19 permits issued under Section 402 as provided under subsection  
20 (k). Implementation of actions for other sources or  
21 categories of sources shall be in accordance with the  
22 authorities available to the Administrator or the State under  
23 federal or state law, including, but not limited to, Section  
24 319 of this Act.

1           (j) REVIEW OF WATER QUALITY STANDARDS AND DESIGNATED  
2 USES IN THE WATERSHED. --- The Commission shall periodically,  
3 but no less often than the periodic review of the watershed  
4 management plan, review and make recommendations to the State  
5 with respect to the establishment and revision of water  
6 quality standards, including designated uses and water quality  
7 criteria, applicable to the watershed under subsection (c) of  
8 section 303 of this Act. The Commission's recommendations  
9 shall be based upon an evaluation of the then current  
10 conditions of the water resources within the watershed  
11 including surface water quality, ground water quality,  
12 sediment conditions, habitat availability, biological  
13 resources and the degree of impairment of designated uses and  
14 upon an evaluation of the attainability of the designated uses  
15 within the watershed. The Commission shall take into account  
16 previous surveys and use attainability analyses conducted  
17 within the watershed and shall consider the technological and  
18 economic capabilities of sources or impediments to meet water  
19 quality objectives within the watershed. Baseline conditions  
20 shall be established by the Commission such that no additional  
21 significant impairment of designated uses or other biotic  
22 resources within the watershed will occur. In conducting its  
23 triennial review and revision of water quality standards under  
24 section 303(c) of this Act, the State shall ensure that such  
25 standards are consistent with the applicable watershed  
26 management plan. The Administrator shall review those  
27 recommendations adopted by the State in accordance with the

1 procedures found in Section 303(c) of this Act, and shall  
2 defer to the determinations and findings of the Commissions  
3 unless such are found, based upon the factual record, to be  
4 contrary to the requirements of this Act.

5 (k) NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
6 PERMITS --- The watershed management plan shall also contain  
7 recommendations to the permit issuing authority concerning the  
8 nature of revisions to the terms, conditions and schedules of  
9 compliance contained within permits issued under section 402  
10 of this Act, so as to incorporate requirements and schedules  
11 contained within the watershed plan. Where existing permits  
12 are inconsistent with the priority identification and ranking  
13 of such sources within the Plan, the permit issuing authority  
14 shall modify permits issued under section 402 to be consistent  
15 with the recommendations of the Plan. At any time during the  
16 watershed planning process permittees may petition the  
17 permitting authority to reopen and revise permit conditions.  
18 The permit issuing authority shall also take into account the  
19 information developed under subsections (e) and (g) in the  
20 revision of permits and in the exercise of any enforcement  
21 action initiated under section 309 of this Act prior to  
22 adoption of the Plan.

23 (l) PERIODIC REVIEW OF WATERSHED MANAGEMENT PLAN. ---  
24 Within five (5) years after adoption of the Action Plan, the  
25 Commission shall review the watershed management plan. The

1 watershed management plan shall subsequently be reviewed not  
2 less than every ten (10) years thereafter. Such review shall  
3 include ---

4 (1) a comparison of current sources of pollutants  
5 of concern in the watershed with those identified under  
6 paragraph (2) of subsection (e) of this section;

7 (2) an evaluation of the degree to which priority  
8 water quality concerns identified under subparagraph  
9 (5)(A) of subsection (e) of this section have been  
10 addressed and the degree to which impediments and  
11 pollutant loadings from sources, or categories of sources  
12 identified under subparagraph (5)(B) of subsection (e) of  
13 this section have been reduced;

14 (3) an evaluation of attainability for designated  
15 uses, taking into account existing factors affecting  
16 water quality in the watershed; and

17 (4) revisions, where appropriate, to the ---

18 (A) identification and ranking of priority  
19 concerns, impediments and sources under paragraph  
20 (5) of subsection (e) of this section,

1 (B) minimum standards of operation and  
2 schedules for implementation and compliance with  
3 such standards developed under this section,

4 (C) recommended changes to water quality  
5 standards and compliance schedules developed under  
6 this section,

7 (D) allocation of costs among the sources or  
8 category of sources of pollutants of concern, and

9 (E) watershed water quality and biological  
10 monitoring programs.

11 (m) GRANTS AND COOPERATIVE AGREEMENTS. --- The  
12 Administrator shall make grants to provide funds to, or enter  
13 into cooperative agreements with, States and interstate  
14 agencies designated as Commissions and with other federal  
15 agencies, to support the costs of developing and periodically  
16 reviewing watershed management plans under subsection (e) of  
17 this section. Any such grant or cooperative agreement shall  
18 not exceed 75% of the total costs of such programs.  
19 Additionally, it is the responsibility of the States in  
20 consultation with the Commissions, to establish appropriate  
21 means for sources or categories of sources to supplement the  
22 federal portion of the grant.

1           (n) COMPLIANCE WITH THE ACT. --- Nothing in this section  
2 shall be construed to relieve any source or category of  
3 sources from its obligation to comply with any other  
4 requirement imposed by this Act to the extent that it is  
5 consistent with the express provisions of this section, or  
6 with a permit issued pursuant to this Act, or with any other  
7 applicable state or federal law. Permit terms and conditions,  
8 the nature and extent of nonpoint source controls, and the  
9 scheduling of compliance and prioritizing of resources to  
10 achieve designated uses shall be guided by the watershed  
11 management plan. The scheduling of compliance and  
12 prioritization of resources to achieve designated uses shall  
13 be consistent with these watershed plans. Permitting agencies  
14 and the Administrator may exercise discretion in enforcing  
15 terms, conditions and schedules regarding requirements imposed  
16 by this Act prior to the adoption of a watershed management  
17 plan when it can be reasonably anticipated that the Plan will  
18 conclude that the existing requirements under this Act are  
19 unnecessarily stringent to achieve water quality objectives  
20 that protects the designated uses of the watershed.

21           (o) CONSISTENCY WITH STATE WATER ALLOCATIONS. --- In no  
22 event shall the provisions of this Section or of such Action  
23 Plan arising from this Section be interpreted or implemented  
24 so as to supersede, abrogate or otherwise impair the authority  
25 of each State to allocate quantities of water within its  
26 jurisdiction, nor shall it be construed to supersede or

1 abrogate rights to quantities of water which have been  
2 established by any State. Furthermore, the plan shall not be  
3 interpreted or implemented so as to in any way increase or  
4 diminish that quantity of water allocated to each State under  
5 interstate compacts or equitable apportionment decrees.

6 (p) AUTHORIZATION OF APPROPRIATIONS. --- There is  
7 authorized to be appropriated for fiscal years 1994, 1995,  
8 1996, 1997 and 1998, such sums as are necessary to carry out  
9 the purposes of this section.

10 **SEC. 4. PERMIT CONSISTENCY.**

11 The Federal Water Pollution Control Act is further amended ---

12 (a) in section 402(b)(1)(B), by inserting after the word  
13 "years," "(or in the case of discharges in watersheds  
14 designated under section 321(b), ten years)", and

15 (b) in section 402(b)(1)(C), by adding at the end of  
16 subparagraph (iii) thereof "and (iv) conforming the terms,  
17 conditions and schedules of compliance of a permit to the  
18 requirements and schedules of a watershed management plan  
19 adopted under section 321 of the Act," and

20 (c) in section 402(o)(2), by deleting the "or" at the  
21 end of paragraph (D) thereof, by changing the period at the  
22 end of paragraph (E) to a semi-colon, and by adding at the end

1        thereof "or (F) the renewed, reissued or modified permit is  
2        consistent with the provisions of a watershed management plan  
3        adopted under section 321(h) of the Act."

**COMMON QUESTIONS & ANSWERS ABOUT  
THE COMPREHENSIVE WATERSHED MANAGEMENT ACT OF 1993**

**COMMON QUESTIONS & ANSWERS ABOUT  
THE COMPREHENSIVE WATERSHED MANAGEMENT ACT OF 1993**

1) **WHY MANDATE COMPREHENSIVE WATERSHED MANAGEMENT ON A NATIONAL SCALE? CAN'T IT ALREADY BE DONE?**

Enactment of the Comprehensive Watershed Management Act of 1993 is essential for two reasons. First and foremost, to facilitate the achievement of the goal of meaningful environmental benefits from water quality improvements, and secondly to define the specific components of a comprehensive watershed management program that is national in scope -- and local in focus.

AMSA feels strongly that while the 20 years since the 1972 Clean Water Act have produced significant benefits, the future application of technology-based standards will not result in the same level of water quality improvements. Achieving tomorrow's water quality successes will be far more challenging and a change in our national "mind set" is essential.

The legislative language looks at the next 20 years of water quality improvements from a new perspective. AMSA believes this shift in our collective approach to this issue must occur. While watershed management is ongoing in some areas of the country, and certainly possible in many others, it is only a national shift in our approach to addressing water quality issues that will provide the information and tools we need to truly make a difference in our nation's water quality over the next 20 years.

2) **WHY PROPOSE A NEW SECTION 321 TO THE CLEAN WATER ACT? COULDN'T SECTION 303 SIMPLY BE AMENDED?**

Offering this legislative language as an amendment to Section 303 of the Act was considered as the drafting process was undertaken. AMSA determined, however, that a new Section 321 was more appropriate. This decision was made based upon the reasons which follow:

- The concept of comprehensive watershed management, as envisioned in the legislative language cuts across several other concepts which already exist in the Act. There are links to Section 402 permitting and Section 309 permit enforcement activities which share prominence, in our view, with the linkage to Section 303. Rather than propose amendments to all related sections, we believed a new Section 321 was more appropriate.
- Offering the legislative language as a "new" Section 321 makes it easier to focus attention and interest on the concept of comprehensive watershed

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management and build support for its enactment into law. Rather than refining existing provisions, Section 321 provides needed prominence and emphasizes the manner in which its provisions join together concepts already existing in the Act.

3) IS IT POSSIBLE FOR LOCAL STAKEHOLDERS TO PLAY A ROLE IN THE WATERSHED DESIGNATION AND COMMISSION APPOINTMENT PROCESS?

Flexibility was intentionally crafted into the provision addressing designation of watersheds to allow the Governor the ability to recognize past successes and existing institutions. The timing of the designation process (allowing no designations sooner than 6 months after enactment) will allow local stakeholders the opportunity to directly petition the Governor with specific recommendations for watershed designations.

AMSA envisions the same sort of active communication with the Governor will take place as appointments to the watershed management Commission are considered. Local stakeholders will have significant role on the Commissions, and special consideration should be given to those agencies within the watershed that now have, and will have, planning, implementation and enforcement responsibilities under the watershed management plan.

4) DON'T THE WATERSHED MANAGEMENT COMMISSIONS CALLED FOR IN THE LEGISLATION ADD JUST ONE MORE LAYER OF GOVERNMENT?

At first glance, the Commissions called for in the legislation could be viewed as "just another layer of government." However, AMSA would argue that it is the make-up and active participation of the Commission that makes the comprehensive watershed management concept truly effective. Today, there already exists multiple layers of local, regional, state and federal agencies with varying jurisdictional responsibilities regarding a particular watershed. Often these agencies do not meet in a coordinated and systematic way to address the policy, operational, regulatory and financial issues of a watershed. The Commission provides the setting for these agencies to meet and to systematically address problem solving for the watershed.

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The Comprehensive Watershed Management Act of 1993 is clearly a "bottoms up" approach to achieving water quality improvements. The important role of the Commission provides the basis for the difficult decisions that must be made to protect and improve the watershed, to be made by those most closely involved -- the stakeholders. It allows those who will implement the controls, to share in the decision-making process, thus eliminating one of the major problems with many of the plans prepared under Section 208 of the Act.

5) WHAT HAPPENS TO EXISTING PLANNING AGENCIES/ENTITIES UNDER THIS LEGISLATION?

As the legislation was developed, AMSA was particularly sensitive to the need to make the Commissions as inclusive as possible of all stakeholders in the watershed, while maintaining a manageable number of members. While the composition of the Commissions was made prescriptive to ensure the inclusion of key stakeholders, special consideration was given to those agencies within the watershed that now have, and will have, planning, implementation and enforcement responsibilities under the watershed management plan. Water quality planning or management panels, conferences, commissions, authorities or similar entities previously in existence or defined by statute may be designated as the "Commission" under Section 321, with the caveat that, to the extent practicable, they alter their compositions to parallel that set forth in the legislation. This will ensure continuity with existing activities within the watershed on the short term, while expanding the membership of the Commission to address new water quality protection objectives.

6) WHY DOES THE LEGISLATION UTILIZE, IN PART, DATA FROM SOURCES WITHIN THE WATERSHED IN ITS PLANNING EFFORTS?

The legislation makes a real effort to utilize valuable existing data, to the extent possible, in the development of the watershed management plans. Data from sources within the watershed can serve as a significant starting point in the assessment process. Because of regional initiatives, permit requirements, special studies or previously mandated water quality protection programs, there exists a wealth of information within some watersheds. If determined relevant and appropriate, this information should be utilized by the Commissions. The last twenty years of the Clean Water Act has resulted in the development of knowledgeable local agencies and interests that have information that can be readily available to the Commissions. Additionally, this approach saves time, money and effort -- while providing the sources with a significant role in the process at an early stage and an inherent

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understanding of the baseline data which will eventually play a role in the decisions made by the Commissions.

7) WHAT RELIEF CAN POINT SOURCES ANTICIPATE FROM IMMINENT REQUIREMENTS BASED UPON WATER QUALITY IMPAIRMENTS FOR WHICH THEY ARE NOT THE SOLE OR MAJOR CAUSE?

In the legislation, progress on water quality improvements, including minimum standards of operation (MSOs), must continue as comprehensive watershed management planning moves forward. Until a watershed management plan is completed, permitting agencies that are responsible for National Pollutant Discharge Elimination System (NPDES) permits must take into account those sources within a watershed that actually cause ongoing water quality impairment and must accordingly exercise flexibility and discretion in exerting their regulatory authority in setting effluent limits and compliance schedules, and in conducting enforcement activities. For this reason, short term relief will hinge on a point source's ability to establish and maintain a close, collaborative working relationship with their permitting agency. In the long term, point sources in watersheds that have undergone this comprehensive planning process will be the benefactors of a much more balanced and equitable approach in implementing water quality controls in their watersheds.

8) WHO PAYS FOR THE IMPLEMENTATION OF WATER QUALITY IMPROVEMENTS? THE LEGISLATION SPEAKS TO THE "EQUITABLE" DISTRIBUTION OF THE COSTS -- DOES THIS MEAN IF I CONTRIBUTE 85% OF THE POLLUTANT LOAD, I PAY 85% OF THE CONTROL COSTS?

It is envisioned that all stakeholders in the watershed will be invested in both the development and the plan and its implementation. To this end the language establishes a shared distribution of the costs. The use of the word "equitable" in this provisions is not intended to mean an assignment of costs directly equivalent to each source's percentage contribution of pollutants. Instead, the intent is that cost allocations will be based upon an appropriate, fair share of the total costs as determined by the Commission. The legislation is not prescriptive as to the mechanism through which this should be established, but allow flexibility to the Commission in determining what is appropriate.

9) **HOW DOES THIS LEGISLATION APPLY TO DISCHARGERS TO EFFLUENT-DOMINATED STREAMS?**

The site-specific approach that this legislation emphasizes makes it applicable to the unique conditions of every watershed. Effluent-dominated streams are one example.

A common concern of dischargers to effluent-dominated and ephemeral streams centers around inaccurate or inappropriate designated uses and water quality standards. The Commission, through the watershed assessment process envisioned by the legislation, would be required to evaluate the water resources of the watershed and could, at its option, recommend revisions to current and projected designated uses and water quality standards of the effluent-dominated stream segments within the watershed.

Any independent effort to conduct research to provide the basis for new water quality criteria documents for effluent-dominated or ephemeral streams would be fully complimentary to, and enhanced by, the watershed management planning process. In fact, in the absence of this process, and the provisions it makes for revisions to designated uses and water quality standards, the desired changes resulting from any new criteria documents could not occur.

10) **WHY ARE THE LISTS OF "TO BE CONSIDERED" PHASE II MSOs MORE DETAILED FOR SOME SOURCES THAN FOR OTHERS?**

The "to be considered" lists of Phase II MSO were crafted to reflect the current understanding of available minimum standards of operation. For that reasons, some sources have longer lists of potential MSOs than others. The lists provided are not all inclusive or limiting. It is, in fact, anticipated that additional or different MSO will be developed during the watershed planning process.

**APPENDIX**  
**AMSA RESOURCES AND CONSULTED ORGANIZATIONS & ENTITIES**

## Association of Metropolitan Sewerage Agencies

## RESOURCES

For additional information contact:

- Blake Anderson, Chair  
AMSA Comprehensive Watershed Management Committee  
Director of Technical Services  
County Sanitation Districts of Orange County  
P.O. Box 8127  
Fountain Valley, CA 92728-8127  
714/962-2411  
FAX 714/962-6957
  
- Edward Wagner, Chair  
AMSA Legislative Policy Committee  
Deputy Commissioner  
New York City Department of Environmental Protection  
Director, Bureau of Clean Water  
96-05 Horace Harding Expressway  
Elmhurst, NY 11373-5107  
718/595-5050  
FAX 718/595-5037
  
- Paula Dannenfeldt  
Director, Legislative & Public Affairs  
Association of Metropolitan Sewerage Agencies  
1000 Connecticut Avenue, N.W., Suite 1006  
Washington, DC 20036  
202/833-4654  
FAX 202/833-4657

**CONSULTED ORGANIZATIONS & ENTITIES**  
[Outside of AMSA's Membership]

**SUBSTANTIVE DISCUSSIONS CONDUCTED**

**American Forest & Paper Association**

(formerly American Paper Institute &  
National Forest Products Association)

Pat Hill

Water Quality & Waste Disposal Programs (API)

Mitch Dubensky

Timberland & Water Quality (NFPA)

**Edison Electric Institute**

Richard Bozek

Manager, Environmental Programs

Kristy Niehaus Bulleit

Counsel (Hunton & Williams)

**Environmental Defense Fund**

Rod Fujita

Senior Scientist

David Bailey

Senior Attorney

**Natural Resources Defense Council**

Robert Adler

Counsel

(also copied: Jessica Landman, Diane Cameron)

**Ohio River Valley Water Sanitation Commission (ORSANCO)**

Alan Vicory

Executive Director

Rebecca Bennett Crow

Washington Representative

Ad Hoc Federal Affairs Task Force

**U.S. Environmental Protection Agency**

**Office of Water**

Martha Prothro

Randy Benn

**Office of Wastewater Enforcement & Compliance**

Mike Cook

Jim Horne

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**Office of Wetlands, Oceans & Watershed**

Bob Wayland

Louise Wise

**Chesapeake Bay Program Office**

John Capacasa

**PROVIDED REVIEW COMMENTS**

**Anderson, Johnson & Gianunzio, P.C.**

Mark Pifher

Colorado Spring, CO

**Association of Metropolitan Water Agencies**

Diane VanDe Hei

Executive Director

**Association of State & Interstate Water Pollution Control Administrators**

Representatives from the States of North Carolina, New York & Oregon

National Office

**California Association of Sanitation Agencies**

Miscellaneous Members

**California Stormwater Quality Task Force**

Doug Harrison

Fresno Metropolitan Flood Control District

**Chemical Manufacturers Association**

Sarah Brozena

Counsel

**Delaware River Basin Commission**

Gerald M. Hansler

Executive Director

**K.P. Lindstrom & Associates**

Kris Lindstrom

President

**Larry Walker Associates, Inc.**

Larry Walker

Davis, CA

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**Massachusetts Bays Program**

Diane Gould  
Coordinator

**Metropolitan Water District of Southern California**

Edward Means  
Director, Water Quality

**National Association of Wheat Growers**

Judy Olson  
Secretary/Treasurer

**National Water Resources Association**

Perryann Coffee  
Director, Government Relations

**Regulatory Management, Inc.**

Jim Egan  
President

**Research Triangle Institute**

Bill Cooter

**Tad S. Foster**

Attorney At Law

**University of Nebraska**

Roy Spalding  
Director, Water Sciences Lab  
Institute of Agriculture & Natural Resources

**U.S. Department of Agriculture**

John Burt  
Associate Deputy Chief for Programs  
Soil Conservation Service

**World Wildlife Fund**

Bill Eichbaum  
Vice President  
International Environmental Quality

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**RECEIVED COPIES OF ITERATIVE DRAFTS/  
COMMENTS SOLICITED**

American Mining Congress  
Center for Marine Conservation  
City of Los Angeles - Stormwater Management  
Clinton Transition Team - U.S. EPA  
Dane County Lakes & Watershed Commission, WI  
Delaware River Basin Commission  
Department of Urban Studies & Planning, Virginia Commonwealth University  
Eastern Municipal Water District  
ENS Resources, Inc.  
Exxon Chemical  
Georgia Environmental Protection Division  
JSC  
King County Surface Water Management  
Law Environment, Inc.  
Linden, Chapa & Fields  
Metropolitan Water District of Orange County  
National Agricultural Chemicals Association  
National Association of Conservation Districts  
National Association of Counties  
National Association of Metal Finishers  
National Association of Towns & Townships  
National Governors Association  
National League of Cities  
National Society of Professional Engineers  
National Water Research Institute  
Risk Sciences, Inc.  
Rural Community Assistance Program  
Save Our Shores  
Sierra Club  
Southern California Association of Governments  
Squires, Sanders & Dempsey  
The CSO Partnership  
U.S. Conference of Mayors  
VeryFine Products  
Water Environment Federation  
Western Coalition of Arid States  
Wisconsin Department of Natural Resources

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**NATIONAL  
ASSOCIATION  
of  
COUNTIES**

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440 First St. NW, Washington, DC 20001  
202/393-6226

STATEMENT OF

THE HONORABLE W. REED MADDEN,  
COMMISSIONER, GREENE COUNTY, OHIO

AND

CHAIR, NATIONAL ASSOCIATION OF COUNTIES  
ENVIRONMENT, ENERGY, AND LAND USE STEERING COMMITTEE

BEFORE THE

SUBCOMMITTEE ON WATER RESOURCES AND THE  
ENVIRONMENT

HOUSE OF REPRESENTATIVES

PUBLIC WORKS AND TRANSPORTATION COMMITTEE

ON BEHALF OF

THE NATIONAL ASSOCIATION OF COUNTIES

Washington, D.C.

April 1, 1993

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MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE; THANK YOU FOR THE OPPORTUNITY TO TESTIFY TODAY BEFORE THE SUBCOMMITTEE ON WATER RESOURCES AND THE ENVIRONMENT ON THE REAUTHORIZATION OF THE CLEAN WATER ACT. I AM W. REED MADDEN, CHAIRMAN OF THE BOARD OF COUNTY COMMISSIONERS OF GREENE COUNTY, OHIO, AND CHAIRMAN OF THE ENVIRONMENT, ENERGY, AND LAND USE STEERING COMMITTEE OF THE NATIONAL ASSOCIATION OF COUNTIES (NACO).\*

NACO BELIEVES THAT THE PROTECTION OF THE ENVIRONMENT AND WISE DEVELOPMENT OF OUR NATION'S RESOURCES ARE OBLIGATIONS SHARED BY CITIZENS, PRIVATE ENTERPRISE AND GOVERNMENT AT ALL LEVELS. COUNTIES HAVE THE LEGAL AND HISTORICAL RESPONSIBILITY FOR MAINTAINING AND IMPROVING THE QUALITY OF LIFE FOR THEIR CITIZENS. THIS CAN BE ACCOMPLISHED ONLY BY PLANNING FOR THE WISEST USE OF THOSE RESOURCES WHICH MAKE UP OUR ENVIRONMENT AND THEN BY IMPLEMENTING THOSE PLANS. IN MOST STATES IN THIS COUNTRY, COUNTIES AND CITIES ARE THE PRIMARY SERVICE DELIVERERS OF CLEAN WATER, AND FOR THAT REASON WE ARE ESPECIALLY AWARE OF THE IMPORTANCE OF THESE HEARINGS AS YOU BEGIN THE PROCESS OF REAUTHORIZING THE CLEAN WATER ACT.

WE FULLY SUPPORT THE GOALS OF THE CLEAN WATER ACT. THE FEDERAL GOVERNMENT, WE BELIEVE, SHOULD PLAY THE LEAD ROLE IN

\*ESTABLISHED IN 1935, THE NATIONAL ASSOCIATION OF COUNTIES IS THE ONLY NATIONAL ASSOCIATION REPRESENTING COUNTY GOVERNMENT IN THE UNITED STATES. THROUGH ITS MEMBERSHIP, URBAN, SUBURBAN, AND RURAL COUNTIES JOIN TOGETHER TO BUILD EFFECTIVE AND RESPONSIVE COUNTY GOVERNMENT. THE GOALS OF THE ORGANIZATION ARE TO: IMPROVE COUNTY GOVERNMENT; SERVE AS THE NATIONAL SPOKESPERSON FOR COUNTY GOVERNMENT; ACT AS A LIAISON BETWEEN THE NATION'S COUNTIES AND OTHER LEVELS OF GOVERNMENT; AND ACHIEVE PUBLIC UNDERSTANDING OF THE ROLE OF COUNTIES IN THE FEDERAL SYSTEM.

SETTING STANDARDS, DEVELOPING REGULATIONS, AND PROVIDING FINANCIAL ASSISTANCE TO ASSURE THE REDUCTION OF POLLUTANTS FROM OUR GROUNDWATER, AND RIVERS AND STREAMS, AND THE CONSERVATION OF OUR WATER RESOURCES. WE REALIZE, HOWEVER, THAT MORE THAN TWENTY YEARS AFTER THE PASSAGE OF THE FIRST CLEAN WATER ACT, WE STILL HAVE NOT ACHIEVED THE GOAL OF FISHABLE, SWIMMABLE WATERS THROUGHOUT THE NATION. PERHAPS IT IS TIME TO REEXAMINE THAT GOAL. GIVEN OUR LIMITED RESOURCES, IMPERFECT SCIENCE, AND NEED TO ADDRESS THE MOST SERIOUS THREATS TO OUR OVERALL ENVIRONMENT FROM A VARIETY OF SOURCES, PERHAPS WE OUGHT TO ACCEPT THE FACT THAT EVERY BODY OF WATER CANNOT, AND SHOULD NOT BE MADE FISHABLE AND SWIMMABLE.

LOCAL ELECTED OFFICIALS KNOW BETTER THAN ANYONE ELSE THAT WE MUST CONTINUE TO INVEST IN POLLUTION PREVENTION AND REMEDIATION. WE SEE FIRST HAND THE EFFECT OF ENVIRONMENTAL DEGRADATION ON OUR COMMUNITIES, AND WE FEEL THE IMPACT ON OUR BUDGETS WHEN PROPERTY VALUES ARE DIMINISHED FROM ENVIRONMENTAL DAMAGE TO LAKES AND STREAMS. BUT WE ALSO KNOW THAT THERE IS A POINT BEYOND WHICH WE WILL BREAK THE FINANCIAL BACKS OF OUR CITIZENS. THE RESULT MAY BE, AND IN SOME COMMUNITIES, HAS BEEN A SITUATION WHERE THEY SIMPLY BECOME UNWILLING TO SUPPORT THE RATES AND CHARGES THAT WE PROPOSE. IF THE PUBLIC BECOMES CONVINCED THAT MANDATED PROGRAMS THAT ARE SUPPOSED TO BE GOOD FOR US ARE NOT WORTH THE PRICE, WE LOSE THAT ENORMOUS WELL OF GOODWILL THAT HAS SUSTAINED OUR ENVIRONMENTAL CLEANUP PROGRAMS SINCE THE 1970'S. NACo'S VIEW IS THAT PRIORITIES MUST BE SET - WE SIMPLY CANNOT EXPECT LOCAL GOVERNMENTS TO RELY ENTIRELY ON THEIR OWN

LIMITED DOLLARS TO SOLVE ALL OF THE ENVIRONMENTAL PROBLEMS THAT FACE US. WE THINK THAT THERE MUST BE SOME DEGREE OF BALANCING RISKS, AND FOCUSING ON THOSE AREAS WHICH NEED ATTENTION THE MOST, THEN WORKING TOWARD OTHER LESS CRITICAL ENVIRONMENTAL OBLIGATIONS.

STATE REVOLVING LOAN PROGRAM

IF WE ARE EVER TO SOLVE OUR LONG-TERM WATER POLLUTION PROBLEMS, IT IS CLEAR THAT THE ROLE OF THE FEDERAL GOVERNMENT IN PROVIDING FUNDING FOR CONSTRUCTION OF MUNICIPAL WASTEWATER FACILITIES MUST CONTINUE AND EXPAND. THE STATE REVOLVING LOAN FUND (SRF) PROGRAM HAS BEEN SERIOUSLY UNDERFUNDED AND DOES NOT EVEN APPROACH THE CONSTRUCTION NEEDS THAT EXIST. IN ADDITION, NEW FEDERAL MANDATES SUCH AS STORMWATER REGULATIONS, COMBINED SEWER OVERFLOWS, AND NONPOINT SOURCE CONTROLS, HAVE CONTINUED TO RAIN DOWN ON COUNTIES AND CITIES, TO COMPETE FOR THE SAME DOLLARS. WHILE WE UNDERSTAND THE NEED TO BALANCE THE FEDERAL BUDGET AND REDUCE THE DEFICIT, WE ON THE LOCAL LEVEL FEEL THAT WE HAVE DONE OUR SHARE, AND THEN SOME. NACo CALLS UPON CONGRESS TO MAINTAIN THE SRF AND TO REAUTHORIZE THE PROGRAM AT AN AMOUNT NO LESS THAN \$3 BILLION PER YEAR FOR ITS IMPLEMENTATION.

WE ALSO FAVOR CHANGES IN THE PROGRAM THAT WILL ALLOW THE STATES FLEXIBILITY TO MEET THE NEEDS OF SMALLER COMMUNITIES. IN PARTICULAR, WE THINK IT IS UNNECESSARY FOR FACILITIES WHICH ARE RECEIVING SRF-FINANCED LOANS TO HAVE TO MEET THE SAME REQUIREMENTS THAT ARE PLACED ON GRANT RECIPIENTS. SMALL COUNTIES AND SEWER DISTRICTS OFTENTIMES LACK THE STAFF RESOURCES AND

ADMINISTRATIVE SOPHISTICATION TO COMPLY WITH THE BURDENSOME TASK OF APPLYING FOR A STATE REVOLVING LOAN. THEREFORE THEY FOREGO THE OPPORTUNITY TO GET ASSISTANCE FOR THEIR NEEDS.

WE URGE THAT THE RESTRICTION ON THE USE OF SRF MONIES TO PAY FOR THE COSTS OF LAND AND RIGHTS OF WAY ASSOCIATED WITH FACILITY CONSTRUCTION BE ELIMINATED. RURAL COUNTIES FREQUENTLY HAVE TO INSTALL COLLECTOR OR INTERCEPTOR SYSTEMS OVER LONG DISTANCES TO SERVE LIGHTLY POPULATED AREAS. MAJOR LAND PURCHASES ARE NECESSARILY PART OF THE PROJECT. IMPROVEMENTS IN THE ADMINISTRATION OF THE SRF PROGRAM AS SUGGESTED WILL INCREASE THE CHANCES THAT SMALLER GOVERNMENTS WILL BE ABLE TO OBTAIN AN SRF LOAN, AND BEGIN TO PROVIDE SOME EQUITY TO THE SYSTEM.

#### GRANTS

THERE WILL ALWAYS SOME SITUATIONS IN WHICH THE SRF IS SIMPLY NOT ADEQUATE TO THE TASK OF ADDRESSING OUR SERIOUS WATER QUALITY CONSTRUCTION NEEDS. IN THE CASE OF SMALL RURAL COMMUNITIES OR DISTRESSED COMMUNITIES, IT WILL BE IMPOSSIBLE UNDER ALMOST ANY SET OF CIRCUMSTANCES TO REPAY A LOAN. NACo SUPPORTS THE CONCEPT OF GIVING THE STATES MORE FLEXIBILITY TO SERVE THE NEEDS OF THESE COMMUNITIES, AND TO CONSIDER A SET-ASIDE OR A SEPARATE PROGRAM FOR SPECIAL CIRCUMSTANCES.

AT THIS TIME, WE ARE NOT PREPARED TO SUGGEST TO YOU AN ON-GOING REVENUE SOURCE FOR FUNDING A GRANTS PROGRAM OR AN EXPANDED LOAN PROGRAM, BUT WE REALIZE THAT A DEDICATED SOURCE OF MONIES IS CRITICAL TO WATER QUALITY IMPROVEMENT. WE WILL BE EXAMINING THE IDEAS THAT ARE BEING CONSIDERED, AND WILL BE HAPPY TO PROVIDE

THE COMMITTEE WITH OUR POSITION WHEN IT IS FINALIZED.

#### WETLANDS

NACo SUPPORTED THE REVISION OF THE 1989 WETLANDS MANUAL BECAUSE WE BELIEVED THAT IT WOULD RESULT IN A LESS COSTLY WETLANDS ENFORCEMENT POLICY. WE STILL THINK THAT CHANGES ARE NEEDED IN THE FOLLOWING AREAS: DESIGNATING A LEAD AGENCY; A DEFINITIVE DEFINITION OF WETLANDS IN UNIQUE SETTINGS; AND A DISTINCTION BETWEEN HISTORIC NATURAL WETLANDS AND ARTIFICIALLY CREATED WETLANDS.

ONE FEDERAL AGENCY NEEDS TO TAKE THE LEAD IN WETLANDS POLICY AND REGULATION ENFORCEMENT. ANSWERING TO FOUR SEPARATE AGENCIES, EACH WITH DIFFERENT GOALS AND ENFORCEMENT METHODS, SEVERELY HAMPERS SOUND WETLANDS CONTROL. THIS PROCESS DRASTICALLY INCREASES THE TIME PERIOD AND THE EXPENSE TO BOTH CITIZENS AND LOCAL GOVERNMENTS. THE CURRENT PERMITTING PROCESS IS TOO TIME CONSUMING AND NEEDS TO BE EXPIDITED. THE CORPS OF ENGINEERS, WHETHER OR NOT IT IS DETERMINED TO BE THE LEAD AGENCY, SHOULD HAVE AN APPEALS PROCESS FOR PERMIT DENIALS.

THERE IS A NEED FOR DEFINITIVE LANGUAGE ON THE DEFINITION OF WETLANDS IN UNIQUE SETTINGS. SPECIFICALLY, PERMAFROST AND OTHER CONDITIONS EXCLUSIVE TO ALASKA NEED TO BE ADDRESSED. ADDITIONALLY, THERE SHOULD BE NO INTERSTATE MITIGATION BANKING.

MOST IMPORTANTLY, A CLEAR DISTINCTION BETWEEN HISTORIC, NATURAL WETLANDS AND DISTURBED OR ARTIFICIALLY CREATED WETLANDS NEEDS TO BE MADE. LAND THAT HAS BEEN IDENTIFIED AS WETLANDS

THROUGH THE CREATION OF HIGHWAYS, DAMS, IRRIGATION, ETC., SHOULD NOT BE PROHIBITED FROM BEING DRAINED. TO CLASSIFY SUCH AREAS AS WETLANDS ONLY CREATES NEW PROBLEMS AND LARGE EXPENSE TO LOCAL GOVERNMENT.

WATERSHED-BASED WATER MANAGEMENT

NACo AGREES IN CONCEPT THAT WATERSHED BASED MANAGEMENT PROVIDES A NUMBER OF BENEFITS IN DEVELOPING A COMPREHENSIVE APPROACH TO ENVIRONMENTAL PROTECTION. OUR STEERING COMMITTEE WILL BE REVIEWING IN SOME DETAIL THE VARIOUS PRINCIPLES AND PROPOSALS PUT FORTH BY PROFESSIONAL ASSOCIATIONS AND OTHERS, AND WILL ULTIMATELY DEVELOP OUR POSITIONS. WE WOULD LIKE TO REQUEST AN OPPORTUNITY TO SUBMIT OUR RECOMMENDATIONS TO YOU WHEN THEY HAVE BEEN APPROVED BY NACo'S BOARD OF DIRECTORS.

WE WANT TO BRING TO YOUR ATTENTION, HOWEVER, TWO POINTS THAT WE HOPE WILL BE KEPT IN MIND IN THE DISCUSSION. FIRST IS THE ISSUE OF LAND USE CONTROL BY LOCAL GOVERNMENTS. COUNTIES HOLD VERY DEAR THE ABILITY TO DETERMINE THE BEST USE OF LAND WITHIN THEIR BOUNDARIES. IT IS THE ELECTED OFFICIALS WHO MUST "OFFICIATE" AT THOSE CONTENTIOUS ZONING HEARINGS WHEN CITIZENS OBJECT TO USE OF THEIR PROPERTY BEING LIMITED BY GOVERNMENTAL REGULATIONS. IT IS THE LOCAL OFFICIALS WHO GET THE CALLS AT 10:00 AT NIGHT FROM ANGRY FARMERS WHO HAVE BEEN TOLD THAT THEY CAN'T CULTIVATE UP TO THEIR PROPERTY LINE. WHILE WE AGREE THAT THERE ARE NECESSARY RESTRICTIONS ON THE USE OF PRIVATE PROPERTY FOR ENVIRONMENTAL PROTECTION, WE WANT TO BE INTIMATELY INVOLVED IN DEVELOPING THOSE RESTRICTIONS, BECAUSE WE WILL CERTAINLY BE

BLAMED FOR THEM.

SECONDLY, WE ARE CONCERNED THAT COUNTY BOUNDARY LINES AND ELECTED COUNTY OFFICIALS MIGHT BE ARBITRARILY DISREGARDED IN ORGANIZING WATERSHED DECISIONMAKING AGENCIES OR COMMITTEES. WE URGE YOU TO REMEMBER THAT COUNTIES HAVE BEEN ORGANIZED IN MOST STATES IN THIS COUNTRY SINCE THE 1800'S AND HAVE LONG HISTORIES OF CROSS-COUNTY OR MULTI-COUNTY COOPERATION. WE WOULD NOT LOOK VERY FAVORABLY UPON FEDERAL OR STATE-IMPOSED ENTITIES WHOSE BOARDS WERE APPOINTED BY ANOTHER LEVEL OF GOVERNMENT, OR BOARDS ON WHICH WE WERE NOT REPRESENTED. LOCAL DECISIONMAKING IS THE KEYSTONE OF NACO'S PHILOSOPHY, AND WE HOPE THAT ANY SPECIFIC PROPOSALS ON WATERSHED MANAGEMENT WILL HAVE A STRONG LOCAL COMPONENT.

THANK YOU FOR THE OPPORTUNITY TO EXPRESS OUR OPINIONS.

**Statement of Scott Tucker  
on behalf of the  
National Association of Flood and Stormwater Management Agencies  
before the  
Subcommittee on Water Resources and Environment  
House Committee on Public Works and Transportation  
on the  
Reauthorization of the Federal Water Pollution Control Act  
April 1, 1993**

### **Introduction**

Mr. Chairman, my name is Scott Tucker, and I am Executive Director of the Urban Drainage and Flood Control District in Denver, Colorado. The District provides both flood control and stormwater management services for the Denver metropolitan area, serving approximately 1,800,000 citizens in 30 municipalities and six counties.

Today I am appearing on behalf of the National Association of Flood and Stormwater Management Agencies (NAFSMA), a national organization representing 50 flood control and stormwater agencies serving a total population of more than 50 million citizens. I now serve as Chairman of the organization's Stormwater Committee and as a member of the Board of Directors.

### **Overview**

The Water Quality Act of 1987 established an approach for the permitting of municipal stormwater discharges for the nation's larger cities and counties that is now fully in place and moving forward on the schedule set forth in U.S. EPA's November 1990 regulations. Next month approximately 200 communities serving a substantial portion of urban America will have filed applications for systemwide National Pollutant Discharge Elimination System (NPDES) permits, representing a major milestone in what will be a long term effort to address urban stormwater runoff.

Mr. Chairman, I am pleased to report that these larger communities have been both timely and earnest in responding to this federal directive. More importantly, despite considerable uncertainty, continuing local resource constraints and the revenue effects of a lingering recession, the initial commitment of local resources has been substantial. Total permit application costs, according to a NAFSMA survey of cities and counties to be permitted, are estimated at \$130 - \$140 million. This survey also points out that the costs of permit applications are much higher than this estimate when the jurisdictions with early permits and the smaller communities that joined with larger, listed jurisdictions in areawide or joint applications, are included.

Mr. Chairman, a legislator who shaped the 1987 requirements for municipal systems emphasized that the permits for municipal separate stormwater systems would not be permits in the traditional sense but were to be "programs." We strongly agree with this view and would add that the programs and measures that municipalities must develop to control pollutants conveyed by municipal systems are new programs and unfortunately at this time, we do not know how to measure their performance or

effectiveness. In short, the nation's larger cities and counties are now charting the course, using the NPDES permit program as the means into the complex issues of non-point pollution, specifically urban stormwater runoff. We are at the front of the line in discovering the level to which our citizens and institutions are willing to make the required adjustments in the way we live and work. The irony of this circumstance is that, in spite of this massive local effort, there is little known about the ultimate effectiveness of this endeavor.

The success of this effort over the near term will depend on the creativity and consensus-building of our local communities, supported by our technical and elected leadership, and their ability to direct massive new financial resources into stormwater systems. Over the longer-term, the level of support and commitment that you and others at the federal and state levels provide will be a critical determining factor in achieving the most significant improvements in the nation's stormwater quality.

All of us have an opportunity with the new Administration and Congress to re-examine how we approach stormwater quality management in addressing non-point pollution. This examination is possible because of the experience of our local efforts, which are still in their infancy despite the substantial commitment of local resources by the medium and larger systems.

Our experiences have shown what we believe is the most significant deficiency in the design of this federal initiative directing larger communities to seek permits for their stormwater systems. The municipal stormwater provisions have created an expectation that now pervades the system that these are our pipes and therefore our pollutants. The 1987 Act did not set forth a parallel agenda for the federal government and/or the states to begin reviewing actions and measures to support a broad-based reduction in the sources and availability of pollutants that find their way into municipal storm drains. In short, if this is a national problem, we see little evidence of any federal and state leadership backing our efforts.

More advanced local programs are now documenting the contributions of the automobile, impacts of air pollution, and a vast array of household and commercial chemical uses. In exercising authorities vested in Washington and in our state capitals, which we do not control, our systems are vulnerable, and under the Clean Water Act, accountable, for sources that heretofore had been viewed as unrelated issues before this Committee, throughout the Congress and within federal and state agencies. In short, Mr. Chairman, we know treatment facilities will not work and we know that controlling the sources is what this program must be about. We need a higher level of national leadership that places the federal government, in its policies and actions, on a course to do its part. In many areas, you are the only level of government that can effectively help us control what passes through our stormwater systems. Setting up an expectation that we own the system and therefore we remove the pollutants by treatment places local taxpayers, your constituents, in the position of underwriting relief, either acknowledged or unintended, to generators of pollutants who can more readily and more cost-effectively be controlled through federal or state actions.

The absence of any clear role for our federal and state partners, other than telling us to get the lead out, goes to the heart of our request to this Committee. We are seeking Congressional action addressing the use of water quality standards in the municipal

stormwater program. The application of water quality-based numerical permit limits by its very nature will force us to fail and be punished for non-compliance. This issue was raised two years ago by NAFSMA and others; it is now time to take action on Clean Water Act amendments to deal with this issue.

At the same time, Mr. Chairman, our members are confident that an assessment of the current record of our local performance will show that communities are proceeding with earnest and cost-effective programs to do our part, responding to a federal directive to address yet ill-defined water quality impacts from urban stormwater runoff.

We already know that treatment of municipal stormwater is too expensive and, even if resources were unlimited, we know that in the end we would not achieve the results that all of us are seeking. We know, and most everyone agrees, that the application of water quality standards, as traditionally expressed in numeric limits, will not work for municipal stormwater. If U.S. EPA won't tell you for fear of being perceived as lacking a commitment to water quality objectives, we can tell you that as a nation we are not ready to move beyond the current Phase I of the stormwater program, primarily because of the lack of knowledge about the costs and benefits of the program and federal resource constraints, both technical and financial.

Unless the unique limitations associated with the management of urban stormwater quality are recognized through amendments to the stormwater provisions of the Clean Water Act, local governments will be overwhelmed by the costs of pursuing such standards. The Southern California Chapter of the American Public Works Association (APWA) reported in May 1992 that capital costs to implement this mandate could range from \$147 million to \$406.7 billion depending on the level of effort required. Their estimates of annual O & M costs ranged from \$1.16 billion to \$542 billion. If municipal systems are held to numeric permit limits, it would be necessary to treat stormwater and the associated costs would be at or near the top of APWA's range. The City of Sacramento estimated that it would cost about \$2 billion for an area of about 900,000 people to implement a treatment option intended to meet standards. They concluded, however, that even with this option some standards would be exceeded.

This experience in California has led to the establishment of the California Stormwater Quality Task Force and its work on a comprehensive package of Clean Water Act amendment recommendations. Doug Harrison, who chaired this working group, will be reviewing the elements of this proposal with the Committee during this hearing. NAFSMA believes this proposal largely addresses the principles that I will now present.

#### **Recommendations on New Clean Water Act Amendments**

Given the work completed and the momentum generated by the some 200 cities and counties, we are not suggesting that the program be abandoned. We are concerned, however, about the future of the effort and have the following recommendations from our membership.

## I. Point vs. Non-Point Sources

There is a need to emphasize more definitively in the Act that municipal stormwater systems convey, not create, pollutants, that are generated by many different sources. As such, municipal separate stormwater systems are more like non-point pollution sources than traditional point sources. The matter of placement of municipal stormwater in Section 402 in the Clean Water Act reinforces inappropriate and unworkable linkages to other CWA requirements developed for point sources that over time may be extended to municipal separate stormwater system permits, rather than emphasizing the non-point nature of this problem and the appropriate control measures (i.e. management practices).

Short of massive engineering solutions involving costly detention and treatment of municipal stormwater to comparable levels for point sources, the remedies for pollution carried by municipal stormwater systems will rely on programs for source control, pollution prevention, improved public and private management practices, education and the like. These activities represent the most appropriate and cost-effective methods of addressing municipal stormwater discharges for the foreseeable future. Such measures are similarly applied in addressing non-point pollution problems that are currently supported under Clean Water Act programs.

**Position:** New amendments should redefine municipal stormwater permit requirements, separating this category of NPDES permits from current law linkages and requirements for NPDES-permitted point sources.

Moreover, establishing municipal stormwater as a distinct category of the NPDES permit program does not preclude or limit the implementation of appropriate water quality standards (WQS) to protect beneficial uses.

## II. Water Quality Standards (WQS) & Maximum Extent Practicable (MEP) Standard

NAFSMA members rightly assert that compliance with all existing WQS in every storm event cannot be achieved in the municipal program. Clarification of water quality standards and objectives as applied to municipal stormwater is needed to account for the substantial geographic variability and differences between municipal separate stormwater systems and traditional waste water and industrial effluent sources.

Existing NPDES permit application requirements for municipal systemwide permits provide permittees and permit-writers with an opportunity to develop locally- and regionally-specific permit requirements under the Maximum Extent Practicable (MEP) standard to address water quality problems attributable to municipal stormwater discharges. New Clean Water Act amendments further defining MEP should account for substantial progress, including level of effort, local expenditures and assessments of local stormwater impacts which have been or will be achieved under current law and regulations. In addition, such CWA amendment proposals should recognize that permit applications, the resulting permits and compliance efforts will further define and implement the MEP standard.

**Position:** NAFSMA members intend to move forward with reasonable and fiscally sound programs, including best management practices and other pollution prevention measures, to address urban stormwater impacts on receiving waters.

NAFSMA urges adoption of a longer-term federal strategy to develop new water quality objectives for municipal stormwater runoff that are appropriate to identified water quality impacts on designated uses, properly account for urban stormwater and are technologically-achievable and financially responsible. Existing water quality standards can be used in the interim to measure progress of municipal stormwater permits and programs, while compliance under the Maximum Extent Practicable (MEP) standard is measured by performance of the practices specified in the permits.

### III. Industrial Facilities

Under existing regulations, local governments with large separate stormwater systems must submit separate applications for NPDES stormwater permits for all designated "industrial" facilities that they own or operate, while at the same time they must also apply for systemwide NPDES permits.

There is interest among some municipalities and regulators in having local agencies provide additional regulatory support to the efforts to control discharges associated with industrial facilities, recognizing that these functions are now properly assigned to state and federal permit and compliance personnel.

**Position:** NAFSMA supports legislative or regulatory changes to provide a process allowing a local government, at its discretion, to include stormwater discharges for municipal facilities (current regulations defined certain facilities owned or operated by the local government as industrial facilities) in its systemwide NPDES permit.

In addition, NAFSMA supports changes in current law to allow, but not require under any circumstances, federal and state agencies to transfer regulatory responsibilities to municipal permittees for "industrial facilities" within their service areas.

### IV. EPA/State Research and Technical Assistance Capabilities

NAFSMA is concerned about the lack of technical and outreach capacity to assist municipal applicants in designing and implementing cost-effective programs and measures to address municipal stormwater discharges. For example, during the application preparation phase of this program, regulations requiring monitoring programs were not well conceived and have resulted in substantial local expenditures for results of limited value to the regulatory agencies and local agencies.

NAFSMA believes that resources are needed to strengthen the technical and programmatic capabilities of EPA and the states to help ensure timely and cost-effective implementation of control measures by regulated municipal systems.

NAFSMA is also concerned that the limited resources now allocated to federal and state agencies for research, technical assistance and other related information exchange functions cannot adequately support an expanding municipal stormwater program in all of the hydrologic regions of the country. Moreover, even the basic information dissemination efforts (e.g. copying and mailing documents, development of case studies to disseminate information on local programs, etc.) are very limited.

**Position:** NAFSMA supports the establishment of a separate authorization to fund new studies, pilot grants to communities, direct technical assistance to communities, clearinghouse and database functions for information-sharing, further research and effective technical development activities in cooperation with state and local governments in similar geographic/hydrologic regions.

#### **V. Smaller Communities and Other Phase II Sources**

NAFSMA believes that we are not ready to proceed with an expansion of the stormwater program beyond the sources that are presently subject to permit requirements. Current law authorizes U.S. EPA and the states to require NPDES permits for Phase II sources where water quality problems exist. This authority has already been exercised on numerous occasions, to address discharges from Phase II sources, such as smaller communities and currently unregulated industries. As representatives of many of the communities already subject to municipal permit requirements, we feel it is crucial that we gain more experience and knowledge before we move forward with an expanded program. This Committee is urged to pursue a full discussion with U.S. EPA and state administrators on the implications of moving forward at this time beyond the Phase I sources.

**Position:** NAFSMA supports a deferral of further regulation of the Phase II sources (except in individual cases where federal and/or state administrators require a permit under existing law) until such time as the federal and state regulatory systems are capable of assuming this substantial responsibility and can develop regulatory requirements based on the experiences of the Phase I program.

#### **Recommendations for Other Related Federal Actions**

Mr. Chairman, we would also recommend that this Committee begin developing an active federal agenda to support local program efforts, recognizing that some of the following recommendations will have to be addressed over time. Specifically, we urge the following:

- 1) Congress should direct the appropriate federal agencies, such as the Office of Technology Assessment, to undertake additional studies defining federal policy options to control or eliminate pollutants now present in urban stormwater and amenable to federal policy or legislative action. One example has been identified in the results of local site specific studies that link copper problems largely with brake linings. If these

results are confirmed by other studies and Congress doesn't intend to get copper out of brake linings, then local agencies should not be held accountable for copper either.

2) Congress should direct that federal facilities – buildings, facilities and other operations – comply with local stormwater management program requirements or require that such federal facilities develop a program that produces comparable results as would have been achieved under the local program.

3) Congress should direct federal facilities to pay their fair share of the costs of local programs and controls by complying with local user charges and other assessments that directly finance local stormwater programs.

4) Congress should strive for consistency in other programs and statutes where federal policies will affect negatively the efforts of local agencies to improve stormwater quality. For example, this Committee also authorizes all federal highway activities which need to be adjusted to reflect more fully stormwater quality objectives. During the last Congress, legislation was approved by another House committee pre-empting all local regulation of pesticide use.

### **Conclusion**

In conclusion, let me emphasize the following.

First, a significant effort is already underway by the larger cities and counties to reduce the pollution carried by larger municipal separate stormwater systems. As an indication of the level of efforts, over \$130 million was spent by cities and counties to prepare applications. Much more will be invested by these jurisdictions to comply with permit requirements.

Second, Congress should clarify that water quality-based limits, including numerical limits, should not be used in the municipal permit program to measure permit compliance. Instead, compliance should be based on permittee performance of the practices specified in the permits.

Third, we urge that the federal government and states commit the political, financial and technical resources to adequately support local efforts. Local governments alone will not be able to achieve the results that all of us are seeking.

Mr. Chairman, I thank the Committee for this opportunity to share the views of NAFSMA on the Clean Water Act reauthorization.

**MUNICIPAL SEPARATE  
STORM SEWER SYSTEM (MS4)  
PERMIT APPLICATION COSTS**

***Report of Survey Results***

***National Association of Flood and  
Stormwater Management Agencies***

***June 15, 1992***

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## PREFACE

In February 1992 the National Association of Flood and Stormwater Management Agencies (NAFSMA) initiated a survey of the nation's larger cities and counties to document the costs of filing permit applications for their municipal separate storm sewer system discharges. Approximately 200 of the nation's larger cities and counties in 42 states and other selected jurisdictions across the country are now preparing applications for National Pollutant Discharge Elimination System (NPDES) permits pursuant to provisions of the "Water Quality Act of 1987" and U.S. EPA's subsequent November 16, 1990 implementing regulations.

The findings of this report underscore the significant costs, level and timeliness of the efforts undertaken by the nation's larger cities and counties in preparing applications for NPDES permits. These jurisdictions are now developing, and in numerous instances are already implementing, elements of a systemwide stormwater management program that will be described fully in Part 2 of the permit application, which will be filed in November 1992 by the largest systems and in May 1993 by the medium-size systems. Federal and state permit-writers will evaluate these submittals in developing final permit requirements to be implemented during the initial five-year term of these permits.

This report is the first of several planned NAFSMA reports to provide reliable and complete information for policy-makers on the cost impacts of federally-established requirements governing municipal separate stormwater system discharges to the nation's waters.

The next report, which is planned for early 1993, will assemble preliminary cost estimates on NPDES permit compliance and will also provide more complete cost data on permit applications, the subject of this first report.

NAFSMA expresses its gratitude to its member agencies and the other non-member cities and counties participating in this survey for the information and support that made this report possible.

L. Scott Tucker  
Chairman, NAFSMA Stormwater Committee  
Executive Director  
Denver Urban Drainage and Flood Control District

## **SIGNIFICANT FINDINGS**

Cities and counties with municipal separate storm sewer systems serving populations over 100,000 are spending an estimated \$130-140 million to prepare applications for NPDES permits. This estimate is based on the results of a recent survey conducted by the National Association of Flood and Stormwater Management Agencies (NAFSMA). Approximately 180 cities and counties are required under present regulations to submit National Pollutant Discharge Elimination System (NPDES) permit applications for their municipal separate storm sewer systems. These costs do not reflect the many other local governments with a population of less than 100,000 that are joining with these cities and counties as copermitees.

The survey results demonstrate the significant costs to cities and counties and the level of effort they are making to comply in a timely manner with the federal mandate to apply for NPDES permits for their separate municipal storm sewer systems.

## **MUNICIPAL SEPARATE STORM SEWER PERMIT PROGRAM**

In 1987 Congress successfully enacted amendments to the Clean Water Act (Water Quality Act of 1987) setting forth a new permitting process for discharges by Municipal Separate Storm Sewer Systems (MS4s). These amendments:

- established a tiered program (based on population thresholds) for phasing in new requirements for city and county separate storm sewer systems;
- authorized the issuance of a single, systemwide permit for the discharges from each system; and
- set a new standard of permit compliance, known as the MEP (maximum extent practicable) standard, emphasizing best management practices (BMPs).

On November 16, 1990, U.S. EPA issued final regulations covering permit application requirements for the 173 cities and 47 counties that were presumed to own/operate separate storm sewer systems serving a population of 100,000 or more. The regulations set forth a comprehensive description of issues and specific requirements that cities and counties must consider and satisfy in preparing an application for a systemwide permit. The survey results discussed in this report provide specific information and cost estimates for the cities and counties now preparing these applications.

Subsequent to the promulgation of these regulations, there is considerable debate and uncertainty within the regulated community of cities and counties, among federal and state policy-makers and within the Congress on how water quality standards, including the associated limits (i.e. numerical effluent limits), apply to municipal separate stormwater system permits.

Cities and counties are now preparing applications for National Pollutant Discharge Elimination System (NPDES) permits, a permit system that heretofore has been used to regulate traditional point sources, such as discharges from municipal wastewater treatment systems and industrial facilities.

U.S. EPA's November 1990 regulation required the listed cities and counties to submit a two-part permit application. The deadlines for Part 1 filings have passed. Cities and counties with a separate storm sewer system serving a population of 250,000 or more (large system) were to have filed Part 1 by November 18, 1991. Cities and counties with a system serving a population of 100,000 - 250,000 (medium system) were to have filed Part 1 by May 18, 1992.

The final phase of the application process concludes with the Part 2 filings. Large systems must file Part 2 on or before November 16, 1992, and medium systems must file on or before May 17, 1993.

## SCOPE OF SURVEY

This survey was designed to document the actual (where available) or the estimated costs of preparing Parts 1 and 2 of the permit application by the cities and counties with separate storm sewer systems serving more than 100,000 people. In securing this permit application cost information, the questionnaire also requested information, including actual and anticipated filing dates for Part 1 and Part 2, joint application data, funding sources, and permit compliance cost estimates. A copy of the survey instrument is provided in this report (pages 31-32).

Beginning in February 1992 questionnaires were mailed to officials in the 220 jurisdictions that were listed in the November 1990 regulation. As of June 12, more than 115 questionnaires were received by the NAFSMA National Office. The findings of this report are based on responses from 101 jurisdictions - 75 cities, 25 counties and 1 joint city/county application - that provided partial or complete application cost information.

The sample size is significant in that it represents more than 55 percent of the affected jurisdictions. While the regulations list 220 jurisdictions, this report concludes that approximately 180 of these jurisdictions will actually seek permits under these regulations. The following adjustments, based on contacts with the listed jurisdictions and other information, were made to the sample universe:

- More than 15 designated jurisdictions are already operating under "early permits" issued in the States of California and Nevada and therefore application costs for these jurisdictions are not included in this report.
- More than 16 jurisdictions that were contacted had already sought an exemption or were seeking an exemption on the basis of population errors or the presence of combined sewer overflows (CSO's) such that the jurisdiction does not meet the statutory application threshold (i.e. a separate storm sewer system serving 100,000 or more).

A listing of the 101 jurisdictions that are included in the survey results is provided in Table 2. The 75 cities, 25 counties and 1 joint city/county agency represent 36 of the 42 states with systems affected by the initial phase of the municipal separate stormwater permit program.

## PERMIT APPLICATION COSTS

Tables 1-5 provide information on Part 1 costs, Part 2 costs and Total Application costs.

More than 95 percent of the respondents provided information of Part 1 costs and more than 82 percent of the respondents provided information on Part 2 costs, 89 percent of the respondents provided information on Total Application costs.

### Key Findings:

- 90 respondents representing a balance of large and medium systems estimated total application costs of \$68.5 million.
- Average cost of a single permit application is \$761,000 for the full, two-part application.
- Total permit application costs for the approximately 180 affected cities and counties are estimated at \$130-140 million.
- Numerous respondents indicated that their application costs estimates were lower than actual costs (e.g. prior work, staff effort and planning not accounted for).

The total application costs for all jurisdictions now operating under these regulations are expected to be much higher. As noted above, the estimate of \$130 - 140 million in application costs for approximately 180 of the larger cities and counties does not reflect the expenditures by other local governments below the 100,000 population threshold.

Nearly one-third of the respondents (30) indicated that their jurisdictions were participating with others as copermittees in a regional municipal permit program. These 30 large or medium systems are joining with 290 other local governments, regional agencies and in several cases with state departments of transportation in seeking a permit on an areawide or regional basis. These respondents were also asked to list major jurisdictions that were participating in a joint or areawide permit. In almost every case, the cities and counties noted as coapplicants were below the 100,000 population threshold. The costs of preparing these applications are not included in the application costs presented in this report.

## TIMELINESS OF APPLICATION FILINGS

Of the 59 cities listed as large systems by EPA, survey responses from 25 of these systems indicated that all but one had filed their Part 1 application on or before the November 18, 1991 deadline. Of the 114 listed medium systems, survey responses from 50 cities in this category indicated that all but one had filed Part 1 on or before the May 18, 1992 deadline.

Questioned on anticipated filing dates for Part 2, 22 of 25 large cities expected to file by the November 16, 1992 deadline, with the remaining three cities planning to file by the Part 2 filing deadline for medium systems. For medium system cities, 47 of 50 expected to file Part 2 by the May 17, 1993 deadline, with three cities providing no anticipated filing date.

### Key Findings:

- Despite U.S. EPA's delay in issuing the final implementing regulations, large and medium municipal systems are complying in a timely manner with the filing deadlines as set forth in these regulations. In submitting Part 1 applications, for example, 73 of the 75 cities filed on or before the deadline.
- The regulatory program for large and medium municipal separate stormwater systems is the only aspect of the federal stormwater regulatory program that has not been modified since the November 16, 1990 regulations were released. During 1991, for example, the industrial facility permit requirements were the subject of two separate U.S. EPA rulemakings and two Congressional actions.
- Large and medium systems have remained on schedule despite continuing delays by U.S. EPA in issuing technical and program support guidance. The key guidance document to be used by large and medium communities in preparing the Part 2 of their applications is due out this summer; large communities are moving forward without the benefit of this guidance document in order to keep on schedule with the November Part 2 filing deadline.

## FUNDING SOURCES FOR PART 1

Respondents were asked to provide information on sources of funding for Part 1 of their applications. Table 6 provides a listing of these fund sources. While the general fund is the dominant source of revenues for most jurisdictions, there is considerable diversity in financing Part 1 application costs.

## PERMIT COMPLIANCE ESTIMATES

All respondents were asked to estimate permit compliance costs. Only 16 of the 101 responses provided any projections on anticipated permit compliance costs. From these responses it is clear that future costs of permit compliance can be expected to be substantially higher than the permit application costs. Since these estimates are quite preliminary, these responses are not provided in this report. In preparing Part 2 of the permit application, jurisdictions are required to prepare a permit compliance estimate. NAFSMA will conduct future survey work in this area.

When asked to identify sources of funding for compliance, 57 respondents had not identified sources at this time, 26 indicated that new revenues would have to be generated and 18 planned to use existing revenues. Of the 16 respondents providing cost estimates, half indicated new revenues would be needed and half planned to utilize existing revenues.

## NOTES ON REPORT AND FINDINGS

In reviewing the attached survey responses, please note the following:

- Counties were not grouped in population categories due to uncertainty over unincorporated populations and the nature of the separate system serving such populations.
- Cities in this report were listed in population categories (i.e. 250,000 or more; 100,000 - 250,000) based on population data provided by the respondent. Therefore, the listings of these cities by population in the following tables do not correspond with U.S. EPA's listings (large and medium) that were set forth in the November 16, 1990 regulation.
- The use of an average permit application cost figures does distort to some degree the actual cost per individual permit application. The use of these average cost figures obviously casts considerable doubt on U.S. EPA's published application (Parts 1 and 2) cost estimates of approximately \$75,000 for large systems and approximately \$50,000 for medium systems.
- This survey effort did not include cities and counties that will meet the population threshold (i.e. more than 100,000) as a result of the 1990 census. When these cities and counties are listed by U.S. EPA and initiate permit applications, the initial group of large and medium jurisdictions operating under these requirements will again total more than 200.

NAFSMA SURVEY RESULTS: SUMMARY TABLE -- Application Costs

	Cities (over 250,000)	Cities (100-250,000)	Counties (over 100,000)	Other (joint applic.)	All Respondents
<u>PART 1</u>					
Population:	19,080,736	6,463,280	9,713,235	665,000	35,922,251
Costs:	\$11,743,018	\$8,953,263	\$5,644,009	\$215,000	\$26,555,290
Respondents:	32	40	23	1	96
Average Cost:	\$370,000	\$224,000	\$246,400	\$215,000	\$276,600
<u>PART 2</u>					
Population:	16,120,736	5,309,499	9,144,235	665,000	31,239,470
Costs:	\$16,071,909	\$13,456,938	\$9,405,483	\$450,000	\$39,384,330
Respondents:	30	32	20	1	83
Average Cost:	\$535,700	\$420,500	\$470,300	\$450,000	\$474,500
<u>FULL APPLICATION</u>					
Population:	16,683,736	5,670,499	9,635,235	665,000	32,654,470
Costs:	\$28,582,927	\$22,174,919	\$17,067,915	\$665,000	\$68,490,761
Respondents:	32	35	22	1	90
Average Cost:	\$893,000	\$663,600	\$775,800	\$665,000	\$761,000

-- FULL APPLICATION costs include respondents that provided both Part 1 and Part 2 estimates as well as those that provided a Total\*\* application cost estimate (shown with footnote 2 in accompanying tables).

-- Other column refers to the joint application by the Louisville & Jefferson County Metropolitan Sewer District, the administering agency for the City of Louisville and Jefferson County.

Table 1

**NAFSMA SURVEY RESULTS:**  
(shown alphabetically by state)

		<b>APPLICATION COSTS -- All Respondents</b>		
	<u>Population*</u>	<u>Part 1</u>	<u>Part 2</u>	<u>Total**</u>
AK	Municipality of Anchorage	\$815,000	\$760,000	\$1,575,000
AL	City of Huntsville	\$400,000 <sup>1</sup>		
AL	Jefferson County	\$620,000 <sup>1</sup>		
AR	City of Little Rock	\$115,175	\$292,150	\$407,325
AZ	City of Mesa	\$100,000	\$300,000	\$400,000
AZ	City of Phoenix	\$400,000	\$600,000	\$1,000,000
AZ	City of Tempe	\$167,000	\$200,000	\$367,000
AZ	City of Tucson	\$200,000	\$500,000	\$700,000
AZ	Pima County	\$250,000	\$250,000	\$500,000
CA	City of Bakersfield	\$30,000	\$100,000	\$130,000
CA	City of Fresno	\$162,000	\$350,000	\$512,000
CA	City of Modesto	\$395,000	\$750,000	\$1,145,000
CA	City of Oxnard	\$215,000 <sup>1</sup>		
CA	City of Stockton	\$600,000	\$900,000	\$1,500,000
CA	Contra Costa County	\$450,000	\$1,700,000	\$2,150,000
CO	City of Aurora	\$211,270	\$313,000	\$524,270
CO	City of Colorado Springs	\$875,000	\$500,000	\$1,375,000
CO	City of Denver	\$394,100	\$377,000	\$771,100
CO	City of Lakewood	\$368,400	\$398,000	\$766,400
DC	Washington, DC	\$50,000	\$500,000	\$550,000

## APPLICATION COSTS CONTINUED

	<u>Population*</u>	<u>Part 1</u>	<u>Part 2</u>	<u>Total**</u>
DE New Castle County	340,000	\$250,000	\$450,000	\$700,000
FL Broward County	152,000	\$180,000	\$161,000	\$351,000
FL City of Ft. Lauderdale	149,377	\$119,000	\$240,000	\$359,000
FL City of Jacksonville	672,971	\$472,000	\$705,000	\$1,177,000
FL City of St. Petersburg	238,750	\$85,000	\$95,000	\$180,000
FL Dade County	1,500,000	\$300,000	\$650,000	\$950,000
FL Escambia County	270,000	\$132,624 <sup>1</sup>		
FL Hillsborough County	550,000	\$295,000	\$450,000	\$745,000
FL Polk County	290,071	\$209,015	\$241,715	\$450,730
FL Sarasota County	277,000	\$305,000	\$588,000	\$893,000
GA City of Atlanta	450,000	\$200,000	\$250,000	\$450,000
GA City of Macon	118,000	\$35,000	\$50,000	\$85,000
GA City of Savannah	140,000	\$15,000 <sup>1</sup>		
GA Clayton County	186,000	\$110,000	\$181,000	\$291,000
GA DeKalb County	545,837	\$200,000	\$275,000	\$475,000
GA Richmond County	200,000	\$85,000	\$350,000	\$435,000
HI City of Honolulu	836,231	\$250,000	\$280,000	\$530,000
IA City of Cedar Rapids	136,000	\$10,000 <sup>1</sup>		
IL City of Rockford	139,000	\$100,000	\$100,000	\$200,000
IN City and County of Indianapolis	750,000	\$425,000	\$670,000	\$1,095,000
KS City of Topeka	125,000	\$100,000	\$430,000	\$530,000

## APPLICATION COSTS CONTINUED

	Population*	Part 1	Part 2	Total	Total**
KS City of Wichita	300,000				\$798,000 <sup>2</sup>
KY City of Lexington	225,000	\$180,000	\$150,000	\$330,000	
KY City of Louisville & Jefferson Co. 4	665,000	\$215,000	\$450,000	\$665,000	
LA City of New Orleans	500,000	\$380,000	\$500,000	\$880,000	
LA Jefferson Parish	400,000	\$360,000	\$500,000	\$860,000	
MA City of Boston	574,283	\$167,000	\$288,000	\$455,000	
MA City of Worcester	170,000	\$175,000	\$375,000	\$550,000	
MD Anne Arundel County	397,000	\$165,000	\$325,000	\$490,000	
MD City of Baltimore	760,000	\$400,000 <sup>1</sup>			
MD Montgomery County	757,027	\$205,000	\$840,000	\$1,045,000	
MD Prince George's County	700,000	\$200,000	\$600,000	\$800,000	
MI City of Ann Arbor	109,578	\$150,000	\$400,000	\$550,000	
MI City of Flint	143,000	\$141,918	\$475,000	\$616,918	\$991,636 <sup>2</sup>
MI City of Grand Rapids	190,000	\$100,000	\$240,000	\$340,000	
MN City of Minneapolis	368,000	\$350,000	\$500,000	\$850,000	
MO City of Kansas City	432,000	\$75,000	\$200,000	\$275,000	
MO City of Springfield	144,000	\$194,000	\$495,000	\$689,000	
MS City of Jackson	200,000	\$500,000	\$650,000	\$1,150,000	
NC City of Charlotte	417,000	\$400,000	\$400,000	\$800,000	
NC City of Durham	130,000	\$393,500	\$318,050	\$711,550	
NC City of Greensboro	190,000	\$257,000	\$320,000	\$577,000	

## APPLICATION COSTS CONTINUED

	Population*	Part 1	Part 2	Total	Total**
NC City of Winston-Salem	150,000	\$280,000	\$450,000	\$730,000	
NE City of Lincoln	200,000				\$350,000 <sup>2</sup>
NE City of Omaha	350,000	\$75,000	\$670,000	\$745,000	
NM City of Albuquerque	300,000	\$45,000	\$264,000	\$309,000	
NY City of New York	2,200,000	\$630,000			
OH City of Cincinnati	364,040	\$150,000	\$200,000	\$350,000	
OH City of Columbus	570,000	\$1,200,000	\$1,150,000	\$2,350,000	
OH City of Toledo	332,943	\$96,000	\$100,000	\$196,000	
OK City of Oklahoma City	425,000	\$386,100	\$234,894	\$620,994	
OK City of Tulsa	367,302	\$285,000	\$862,650	\$1,147,650	
OR City of Eugene	110,000	\$250,000	\$900,000	\$1,150,000	\$600,000 <sup>2</sup>
SC Greenville County	325,000				
TN City of Knoxville	165,121	\$261,000	\$464,300	\$725,300	
TN City of Memphis	619,662	\$558,818	\$304,365	\$863,183	
TX City of Amarillo	159,000	\$90,000 <sup>1</sup>			
TX City of Arlington	263,000				
TX City of Beaumont	119,000	\$342,000	\$384,000	\$726,000	
TX City of Corpus Christi	270,000	\$250,000	\$500,000	\$750,000	
TX City of Dallas	1,006,877	\$650,000	\$1,850,000	\$2,500,000	
TX City of El Paso	530,000	\$750,000	\$890,000	\$1,640,000	
TX City of Houston	1,594,000	\$400,000	\$1,300,000	\$1,700,000	

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Table 2 - page 4

## APPLICATION COSTS CONTINUED

	Population*	Part 1	Part 2	Total	Total**
TX City of Lubbock	190,000	\$212,000	\$551,000	\$763,000	
TX City of Pasadena	120,000	\$150,000 <sup>1</sup>			
UT City of Salt Lake	161,000	\$80,000 <sup>1</sup>			\$200,000 <sup>2</sup>
UT Salt Lake County	270,000	\$347,670	\$661,160	\$1,008,830	
VA Arlington County	173,000	\$74,700	\$167,500	\$242,200	
VA Chesterfield County	209,300	\$200,000	\$250,000	\$450,000	
VA City of Alexandria	116,000	\$150,000	\$510,000	\$660,000	
VA City of Chesapeake	151,976	\$350,000	\$459,000	\$809,000	
VA City of Hampton	130,000	\$20,000 <sup>1</sup>			
VA City of Newport News	174,000	\$500,000	\$600,000	\$1,100,000	
VA City of Richmond	203,056	\$316,000	\$737,438	\$1,053,438	
VA City of Virginia Beach	400,000	\$757,000	\$676,000	\$1,433,000	
WA City of Seattle	516,259	\$210,000	\$150,000	\$360,000	
WA King County	1,000,000	\$46,000	\$466,468	\$510,468	\$1,731,155 <sup>2</sup>
WA Pierce County	150,000	\$350,000 <sup>1</sup>			
WA Snohomish County	150,000	\$300,000	\$300,000	\$600,000	
WA Spokane County	156,000				\$1,300,000 <sup>3</sup>
WI City of Madison	191,262	\$80,000	\$350,000	\$430,000	

APPLICATION COSTS CONTINUED

	<u>Population*</u>	<u>Part 1</u>	<u>Part 2</u>	<u>Total</u>	<u>Total**</u>
Total Population - 101 respondents:	37,176,251				
Total Part 1 Costs - 96 respondents:		\$26,555,290			
Total Part 2 Costs - 83 respondents:			\$39,384,690		
Total Application Costs - 83 respondents:				\$62,927,356	
Total** Application Costs - 8 respondents:					\$6,970,791

\* Respondents generally assigned populations using available data (1980 or 1990 census) and in several cases figures are estimates of population served by the separate systems, not the actual city or county population.

\*\* Amounts are total application cost estimates where the respondent did not provide separate Part 1 and Part 2 estimates or the respondent provided a total application cost estimate that is higher than the sum of Parts 1 and 2.

- 1 Amounts are included in Total Part 1 Costs but are excluded in Total Application Costs.
- 2 Amounts are included in Total Application Cost estimates in Table 1 and report summary.
- 3 Amount is higher than actual application cost since it includes preparation of a stormwater management plan.
- 4 Joint application submitted by Louisville & Jefferson County Metropolitan Sewer District, the administering agency for the City of Louisville and Jefferson County (application cost information shown only in Tables 1 and 2).

NAFSMA SURVEY RESULTS: APPLICATION COSTS -- Cities over 250,000

(shown by population)

	<u>Population:</u>	<u>Part 1</u>	<u>Part 2</u>	<u>Total</u>	<u>Total**</u>
NY City of New York	2,200,000	\$630,000			
TX City of Houston	1,594,000	\$400,000	\$1,300,000	\$1,700,000	
TX City of Dallas	1,006,877	\$650,000	\$1,850,000	\$2,500,000	
AZ City of Phoenix	900,000	\$400,000	\$600,000	\$1,000,000	
HI City of Honolulu	836,231	\$250,000	\$280,000	\$530,000	
MD City of Baltimore	760,000	\$400,000 <sup>1</sup>			
IN City and County of Indianapolis	750,000	\$425,000	\$670,000	\$1,095,000	
FL City of Jacksonville	672,971	\$472,000	\$705,000	\$1,177,000	
DC Washington, DC	620,000	\$50,000	\$500,000	\$550,000	
TN City of Memphis	618,682	\$558,818	\$304,365	\$863,183	
MA City of Boston	574,283	\$167,000	\$288,000	\$455,000	
OH City of Columbus	570,000	\$1,200,000	\$1,150,000	\$2,350,000	
TX City of El Paso	530,000	\$750,000	\$890,000	\$1,640,000	
WA City of Seattle	516,259	\$210,000	\$150,000	\$360,000	
LA City of New Orleans	500,000	\$380,000	\$500,000	\$880,000	
CA City of Fresno	500,000	\$162,000	\$350,000	\$512,000	
CO City of Denver	467,610	\$394,100	\$377,000	\$771,100	
GA City of Atlanta	450,000	\$200,000	\$250,000	\$450,000	
MO City of Kansas City	432,000	\$75,000	\$200,000	\$275,000	
OK City of Oklahoma City	425,000	\$386,100	\$234,894	\$620,994	
NC City of Charlotte	417,000	\$400,000	\$400,000	\$800,000	

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APPLICATION COSTS -- Cities over 250,000

	Population*	Part_1	Part_2	Total	Total**
AZ City of Tucson	412,538	\$200,000	\$500,000	\$700,000	
VA City of Virginia Beach	400,000	\$757,000	\$676,000	\$1,433,000	
MN City of Minneapolis	368,000	\$350,000	\$500,000	\$850,000	
OK City of Tulsa	367,302	\$285,000	\$862,650	\$1,147,650	
OH City of Cincinnati	364,040	\$150,000	\$200,000	\$350,000	
NE City of Omaha	350,000	\$75,000	\$670,000	\$745,000	
OH City of Toledo	332,943	\$96,000	\$100,000	\$196,000	
NM City of Albuquerque	300,000	\$45,000	\$264,000	\$309,000	
KS City of Wichita	300,000				\$798,000 <sup>2</sup>
AZ City of Mesa	290,000	\$100,000	\$300,000	\$400,000	
CO City of Colorado Springs	285,000	\$875,000	\$500,000	\$1,375,000	
TX City of Corpus Christi	270,000	\$250,000	\$500,000	\$750,000	
TX City of Arlington	263,000				\$1,000,000 <sup>2</sup>

APPLICATION COSTS -- Cities over 250,000

Population: Part 1 Part 2 Total\*

Total Population - 34 respondents:	19,643,736		
Total Part 1 Costs - 32 respondents:	\$11,743,018		
Total Part 2 Costs - 30 respondents:		\$16,071,909	
Total Application Costs - 30 respondents:			\$26,784,927
Total** Application Costs - 2 respondents:			\$1,798,000

\* Respondents generally assigned populations using available data (1980 or 1990 census) and in several cases figures are estimates of population served by the separate systems, not the actual city or county population.

\*\* Amounts are total application cost estimates where the respondent did not provide separate Part 1 and Part 2 estimates or the respondent provided a total application cost estimate that is higher than the sum of Parts 1 and 2.

1 Amounts are included in Total Part 1 Costs but are excluded in Total Application Costs.

2 Amounts are included in Total Application Cost estimates in Table 1 and report summary.

NAFSMA SURVEY RESULTS: APPLICATION COSTS -- Cities of 100,000 - 250,000  
(shown by population)

	Population*	Part 1	Part 2	Total	Total**
FL City of St. Petersburg	238,750	\$85,000	\$95,000	\$180,000	
AK Municipality of Anchorage	235,000	\$815,000	\$760,000	\$1,575,000	
KY City of Lexington	225,000	\$180,000	\$150,000	\$330,000	
CO City of Aurora	222,103	\$211,270	\$313,000	\$524,270	
CA City of Stockton	210,000	\$600,000	\$900,000	\$1,500,000	
VA City of Richmond	203,056	\$316,000	\$737,438	\$1,053,438	
MS City of Jackson	200,000	\$500,000	\$650,000	\$1,150,000	
NE City of Lincoln	200,000				\$350,000 2
WI City of Madison	191,262	\$80,000	\$350,000	\$430,000	
TX City of Lubbock	190,000	\$212,000	\$551,000	\$763,000	
NC City of Greensboro	190,000	\$257,000	\$320,000	\$577,000	
MI City of Grand Rapids	190,000	\$100,000	\$240,000	\$340,000	
CA City of Bakersfield	182,000	\$30,000	\$100,000	\$130,000	
AR City of Little Rock	175,795	\$115,175	\$292,150	\$407,325	
VA City of Newport News	174,000	\$500,000	\$600,000	\$1,100,000	
CA City of Modesto	172,000	\$395,000	\$750,000	\$1,145,000	
MA City of Worcester	170,000	\$175,000	\$375,000	\$550,000	
TN City of Knoxville	165,121	\$261,000	\$464,300	\$725,300	
AL City of Huntsville	165,000	\$400,000 1			
UT City of Salt Lake	161,000	\$80,000 1			\$200,000 2

## APPLICATION COSTS -- Cities of 100,000 - 250,000

	Population*	Part 1	Part 2	Total	Total**
TX City of Amarillo	158,000	\$90,000 <sup>1</sup>			
VA City of Chesapeake	151,976	\$350,000	\$459,000	\$809,000	
NC City of Winston-Salem	150,000	\$280,000	\$450,000	\$730,000	
FL City of Ft. Lauderdale	149,377	\$119,000	\$240,000	\$359,000	
AZ City of Tempe	145,000	\$187,000	\$200,000	\$387,000	
MO City of Springfield	144,000	\$194,000	\$495,000	\$689,000	
CA City of Oxnard	143,781	\$215,000 <sup>1</sup>			
MI City of Flint	143,000	\$141,918	\$475,000	\$616,918	\$991,636 <sup>2</sup>
GA City of Savannah	140,000	\$15,000 <sup>1</sup>			
IL City of Rockford	139,000	\$100,000	\$100,000	\$200,000	
IA City of Cedar Rapids	136,000	\$10,000 <sup>1</sup>			
VA City of Hampton	130,000	\$20,000 <sup>1</sup>			
NC City of Durham	130,000	\$393,500	\$318,050	\$711,550	
CO City of Lakewood	126,481	\$368,400	\$398,000	\$766,400	
KS City of Topeka	125,000	\$100,000	\$430,000	\$530,000	
TX City of Pasadena	120,000	\$150,000 <sup>1</sup>			
TX City of Beaumont	119,000	\$342,000	\$384,000	\$726,000	
GA City of Macon	118,000	\$35,000	\$50,000	\$85,000	
VA City of Alexandria	115,000	\$150,000	\$510,000	\$660,000	
OR City of Eugene	110,000	\$250,000	\$900,000	\$1,150,000	
MI City of Ann Arbor	109,578	\$150,000	\$400,000	\$550,000	

Table 4 - page 2

APPLICATION COSTS -- Cities of 100,000 - 250,000

	<u>Population*</u>	<u>Part 1</u>	<u>Part 2</u>	<u>Total</u>	<u>Total**</u>
Total Population - 41 respondents:	6,663,280				
Total Part 1 Costs - 40 respondents:		\$8,953,263			
Total Part 2 Costs- 32 respondents:			\$13,456,938		
Total Application Costs - 32 respondents:				\$21,430,201	
Total** Application Costs - 3 respondents:					\$1,541,636

\* Respondents generally assigned populations using available data (1980 or 1990 census) and in several cases figures are estimates of population served by the separate systems, not the actual city or county population.

\*\* Amounts are total application cost estimates where the respondent did not provide separate Part 1 and Part 2 estimates or the respondent provided a total application cost estimate that is higher than the sum of Parts 1 and 2.

1 Amounts are included in Total Part 1 Costs but are excluded in Total Application Costs.

2 Amounts are included in Application Cost estimates in Table 1 and report summary.

**NAFSMA SURVEY RESULTS:**  
(shown alphabetically by state)

**APPLICATION COSTS -- Counties**

	Population:	Part_1	Part_2	Total	Total**
AL Jefferson County	149,000	\$620,000 <sup>1</sup>			
AZ Pima County	247,000	\$250,000	\$250,000	\$500,000	
CA Contra Costa County	800,000	\$450,000	\$1,700,000	\$2,150,000	
DE New Castle County	340,000	\$250,000	\$450,000	\$700,000	
FL Broward County	152,000	\$190,000	\$161,000	\$351,000	
FL Dade County	1,500,000	\$300,000	\$650,000	\$950,000	
FL Escambia County	270,000	\$132,624 <sup>1</sup>			
FL Hillsborough County	550,000	\$295,000	\$450,000	\$745,000	
FL Polk County	290,071	\$209,015	\$241,715	\$450,730	
FL Sarasota County	277,000	\$305,000	\$585,000	\$890,000	
GA Clayton County	186,000	\$110,000	\$181,000	\$291,000	
GA DeKalb County	545,837	\$200,000	\$275,000	\$475,000	
GA Richmond County	200,000	\$85,000	\$350,000	\$435,000	
LA Jefferson Parish	400,000	\$360,000	\$500,000	\$860,000	
MD Anne Arundel County	397,000	\$165,000	\$325,000	\$490,000	
MD Montgomery County	757,027	\$205,000	\$840,000	\$1,045,000	
MD Prince George's County	700,000	\$200,000	\$600,000	\$800,000	\$600,000 <sup>2</sup>
SC Greenville County	325,000				
UT Salt Lake County	270,000	\$347,670	\$661,160	\$1,008,830	
VA Arlington County	173,000	\$74,700	\$167,500	\$242,200	

## APPLICATION COSTS -- Counties

	Population*	Part 1	Part 2	Total	Total**
VA Chesterfield County	209,300	\$200,000	\$250,000	\$450,000	
WA King County	1,000,000	\$45,000	\$465,468	\$510,468	\$1,731,155 <sup>2</sup>
WA Pierce County	150,000	\$350,000 <sup>1</sup>			
WA Snohomish County	150,000	\$300,000	\$300,000	\$600,000	
WA Spokane County	166,000				\$1,300,000 <sup>3</sup>

Total Population - 25 respondents: 10,204,235

Total Part 1 Costs - 23 respondents: \$5,644,009

Total Part 2 Costs - 20 respondents: \$9,405,843

Total Application Costs - 20 respondents: \$13,947,228

Total\*\* Application Costs - 3 respondents: \$3,631,155

\* Respondents generally assigned populations using available data (1980 or 1990 census) and in several cases figures are estimates of population served by the separate systems, not the actual city or county population.

\*\* Amounts are total application cost estimates where the respondent did not provide separate Part 1 and Part 2 estimates or the respondent provided a total application cost estimate that is higher than the sum of Parts 1 and 2.

1 Amounts are included in Total Part 1 Costs but are excluded in Total Application Costs.

2 Amounts are included in Application Cost estimates in Table 1 and report summary.

3 Amount is higher than actual application cost since it includes preparation of a stormwater management plan.

NAFSMA SURVEY RESULTS:  
(shown alphabetically by state)

PART 1 FUNDING SOURCES -- All Respondents	
AK Municipality of Anchorage	general fund special tax, levy or fee -- storm drainage enterprise fund with monthly utility bill
AL City of Huntsville	general fund special tax, levy or fee -- wastewater user rates
AL Jefferson County	general fund other -- State Revolving Fund (repaid by fees by newly-created stormwater utility)
AR City of Little Rock	general fund -- special appropriation during 1991
AZ City of Mesa	general fund special tax, levy or fee -- storm drainage utility fee; and support (1/3) from Denver Urban Drainage
AZ City of Phoenix	general fund -- general obligation bonds
AZ City of Tempe	general fund general fund -- capital improvements fund (generated from 1/2 cent sales tax)
AZ City of Tucson	general fund -- drainage bond funds
AZ Pima County	special tax, levy or fee special tax, levy or fee -- sanitary and storm sewer utility fee, and 1/3 from Denver Urban Drainage
CA City of Bakersfield	general fund general fund -- and support (1/3) from Denver Urban Drainage
CA City of Fresno	other -- State Revolving Fund (loan to be repaid through drainage fees on new developments)
CA City of Modesto	general fund special tax, levy or fee -- water and sewer enterprise fund
CA City of Oxnard	general fund
CA City of Stockton	general fund
CA Contra Costa County	general fund
CO City of Aurora	general fund
CO City of Colorado Springs	general fund
CO City of Denver	general fund
CO City of Lakewood	general fund
DC Washington, DC	general fund
DE New Castle County	general fund
FL Broward County	general fund -- property tax

PART 1 FUNDING SOURCES -- All Respondents

FL	City of Ft. Lauderdale	other -- currently funds are being borrowed from the water and wastewater enterprise fund	GA	DeKalb County	combination -- 1/2 general fund; 1/2 water and sewer revenues
FL	City of Jacksonville	special tax, levy or fee -- local option gas tax	GA	Richmond County	special tax, levy or fee -- 1% special purpose sales tax for drainage & roads
FL	City of St. Petersburg	special tax, levy or fee -- stormwater management utility	HI	City of Honolulu	special tax, levy or fee -- Highway Fund
FL	Escambia County	dedicated tax source -- drainage fee & in kind services	IA	City of Cedar Rapids	special tax, levy or fee
FL	Hillsborough County	special tax, levy or fee	IL	City of Rockford	dedicated tax source -- use of income tax rebated to city from the state
FL	Polk County	general fund	IN	City of Indianapolis	other -- Cumulative Fund (Capital Improvement Fund) general fund
FL	Sarasota County	special tax, levy or fee -- environmental utility fees (stormwater assessment)	KS	City of Topeka	special tax, levy or fee
GA	City of Atlanta	general fund	KS	City of Wichita	special tax, levy or fee
GA	City of Macon	general fund -- city engineer's capital budget	KY	City of Lexington	general fund
GA	City of Savannah	general fund	KY	City of Louisville & Jefferson County	special tax, levy or fee -- stormwater drainage fee & permit fees
GA	Clayton County	general fund	LA	City of New Orleans	general fund

PART 1 FUNDING SOURCES -- All Respondents

LA Jefferson Parrish	general fund	MO City of Kansas City	general fund
MA City of Boston	other -- general obligation bonds	MO City of Springfield	general fund
MA City of Worcester	special tax, levy or fee -- sewer use fee	MS City of Jackson	general fund
MD Anne Arundel County	general fund	NC City of Charlotte	general fund
MD City of Baltimore	general fund -- wastewater revenue fund	NC City of Durham	other -- borrowed from capital projects fund to be repaid from stormwater utility revenue
MD Montgomery County	general fund	NC City of Greensboro	combination -- general fund (\$175,000) special fee on water bills (\$87,000)
MD Prince George's County	dedicated tax source -- stormwater enterprise fund	NC City of Winston-Salem	general fund
MI City of Ann Arbor	special tax, levy or fee -- stormwater utility fees	NE City of Lincoln	general fund
MI City of Flint	special tax, levy or fee -- sewer fund	NE City of Omaha	general fund
MI City of Grand Rapids	general fund -- loan from General Fund to be repaid upon establishment of Stormwater Utility	NM City of Albuquerque	general fund
MN City of Minneapolis	dedicated tax source -- sewer and water bills	NY City of New York	general fund

PART 1 FUNDING SOURCES -- All Respondents

OH City of Cincinnati	special tax, levy or fee - stormwater management funds (collection of user fees)	TX City of Corpus Christi	other -- water revenues (revenue fund)
OH City of Columbus	special tax, levy or fee - fee based on monthly charge and sanitary sewer use	TX City of Dallas	funded through water & wastewater revenues to be reimbursed by storm water fee instituted 10-1-91 general fund
OH City of Toledo	general fund - appropriation from income tax revenue	TX City of El Paso	
OK City of Oklahoma City	general fund	TX City of Houston	other -- public Improvement Bond Funds
OK City of Tulsa	special tax, levy or fee - approx. one-half from stormwater utility fee	TX City of Lubbock	other -- loans from other city funds and \$150,000 from prior storm sewer improvement bonds general fund
OR City of Eugene	special fee - sewer use fee and capital funds	TX City of Pasadena	
SC Greenville County	general fund	UT City of Salt Lake	special tax, levy or fee
TN City of Knoxville	general fund	UT Salt Lake County	dedicated tax source -- flood control mill levy
TN City of Memphis	general fund	VA Arlington County	general fund
TX City of Amarillo	special tax, levy or fee - wastewater fee	VA Chesterfield County	general fund
TX City of Beaumont	general fund	VA City of Alexandria	general fund

PART 1 FUNDING SOURCES -- All Respondents

VA City of Chesapeake	general fund
VA City of Hampton	general fund
VA City of Newport News	general fund
VA City of Richmond	special tax, levy or fee
VA City of Virginia Beach	general fund
WA City of Seattle	special tax, levy or fee - drainage fee based on parcel size and % impervious surface
WA King County	special tax, levy or fee - Surface Water Management Utility Fee
WA Pierce County	special tax, levy or fee - Surface Water Management Service Charge
WA Snohomish County	special tax, levy or fee - drainage utility fee and state loan
WA Spokane County	other -- user rates and state grant (50/50)
WI City of Madison	general fund



NATIONAL ASSOCIATION OF FLOOD AND STORMWATER MANAGEMENT AGENCIES  
1225 Eye St., N.W. Suite 300 • Washington, D.C. 20005 • (202) 682-3761

## NAFSMA SURVEY QUESTIONNAIRE

### MUNICIPAL SEPARATE STORMWATER SYSTEM PERMITTING COSTS

Survey Completed By: \_\_\_\_\_

Agency: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: ( ) \_\_\_\_\_ Agency's Population: \_\_\_\_\_

1. Please indicate the status of your city or county jurisdiction's application for an NPDES permit for your Municipal Separate Storm Sewer System (MS4).

\_\_\_\_\_ Part 1 was filed on \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

\_\_\_\_\_ Part 1 to be filed on \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

2. If available, please provide an estimate of \*costs for preparing and filing Part 1 of your application for a MS4 point.

\$\_\_\_\_\_ Costs for Part I

If you provided an estimate above, please indicate how funds were generated.

- \_\_\_\_\_ General fund  
\_\_\_\_\_ Special tax, levy or fee  
\_\_\_\_\_ Dedicated tax source (e.g. property)

Specify: \_\_\_\_\_

3. Did your city/county/jurisdiction join with another city/county/jurisdiction in your region in submitting your Part 1 application?

\_\_\_\_\_ Yes \_\_\_\_\_ No

If yes, please indicate number of co-applicants \_\_\_\_\_ and list larger jurisdictions:

\_\_\_\_\_

4. Have you estimated the cost of preparing and filing Part 2 application?

\_\_\_\_\_ Yes \_\_\_\_\_ No

If yes, please provide estimate of costs for Part 2: \$\_\_\_\_\_

\*In estimating costs, please include the following: 1) direct costs (i.e. consultants, monitoring/sampling equipment, specialized services, studies, other equipment and outside lab costs); and 2) indirect costs (i.e. in-house staff time, overhead, in-house laboratory costs and staff time, and staff time from regional agencies).

- please continue on back of page -

## 5. When do you expect to file Part 2?

\_\_\_\_ / \_\_\_\_ / \_\_\_\_ (Date)

## 6. If you have not separated your budget for Part 1 and Part 2 of your application, please provide your estimate of total costs to prepare and submit your full MS4 permit application (Part 1 and Part 2).

\$ \_\_\_\_\_

## 7. Have you estimated likely cost of compliance for your MS4 permit program?

\_\_\_\_\_ Yes          \_\_\_\_\_ No

If yes, please provide estimate and discuss briefly: \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_

## 8. How do you expect to pay for implementation cost of your MS4 program?

- \_\_\_\_\_ do not know at this time  
 \_\_\_\_\_ existing revenues (general fund; utility revenues)  
 \_\_\_\_\_ new revenues (tax increase/rate increase/other)

If you have adopted or plan to adopt a tax increase/rate increase, please describe:

\_\_\_\_\_  
 \_\_\_\_\_

## 9. Since NAFSMA expects to undertake followup cost surveys, please provide a contact person below to direct future surveys:

\_\_\_\_\_  
 \_\_\_\_\_

*Please mail or FAX (202-842-0621) to:*

**NAFSMA**  
**1225 Eye St., NW, Suite 300**  
**Washington, D.C. 20005**

## ABOUT NAFSMA AND ITS MEMBERS

The National Association of Flood and Stormwater Management Agencies (NAFSMA), a national organization established in 1978, represents state and local agencies nationwide and is committed to improving national stormwater management guidelines and activities and ensuring the continuation of water resource projects and other programs of interest to stormwater management and flood control agencies.

### Who Are NAFSMA's Members?

NAFSMA's membership includes representatives of state, regional and municipal stormwater management and flood control agencies from various parts of the country. Membership is open to qualified states, counties, metropolitan, special district or municipal water resource agencies responsible for water resources and/or stormwater management programs.

### NAFSMA'S STAFF

NAFSMA's staff advocates the interests of association members and facilitates communication between members and federal officials.

Call the National Office (202-682-3761) for more information:

Ron M. Linton: Executive Director  
(Ext. 201)

Kevin McCarty: Deputy Executive Director  
(Ext. 228)

Susan Gilson: Director of Legislative and  
Regulatory Affairs (Ext. 239)

Darline Blaine: Administrative Assistant  
(Ext. 226)

**National Association of Flood and  
Stormwater Management Agencies**  
1225 Eye St., NW, Suite 300  
Washington, DC 20005  
202-682-3761

### NAFSMA Members

Municipality of Anchorage, AK	Denver Urban Drainage and Flood Control District, CO
City of West Memphis, AR	DuPage County, IL
City of Glendale, AZ	Metro Sanitary District of Greater Chicago, IL
City of Holbrook, AZ	Illinois Division of Water Resources, IL
Flood Control District of Maricopa County, AZ	City of Great Bend, KS
Pima County, AZ	City-County Planning Com- mission Bowling Green, KY
Kern County Water Agency, CA	Louisville and Jefferson County Metropolitan Sewer District, KY
Department of Planning and Development Services, Bakersfield, CA	City of Rochester, MN
City of Los Angeles, CA	Bassett Creek Water Manage- ment Commission, MN
Contra Costa County Flood Control and Water Conserva- tion District, CA	Board of Mississippi Levee Commissioners, Greenville, MS
Riverside County Flood Control District, CA	City of Charlotte, NC
City of Sacramento, CA	City of Durham, NC
Sacramento County, CA	Clark County Regional Flood Control District, NV
San Joaquin County, CA	New York State DEC, NY
Monterey County Flood Control and Water Conserva- tion District, CA	New York City, NY
San Bernardino Flood Control District, CA	City of Cincinnati, OH
San Diego County Flood Control District, CA	City of Columbus, OH
Santa Clara Valley Water District, CA	City of Forest Park, OH
City of Santa Ana, CA	City of Tulsa, OK
County of Orange, CA	City of Portland, OR
Santa Barbara County Flood Control and Water Conserva- tion District, CA	City of Norfolk, VA
City of Huntington Beach, CA	City of Richmond, VA
City of Vallejo, CA	City of Bellevue, WA
City of Fort Collins, CO	King County, WA
	SUBSCRIBERS: CH2M Hill Michael Baker Engineering



# REAUTHORIZATION OF THE FEDERAL WATER POLLUTION CONTROL ACT

WEDNESDAY, APRIL 21, 1993

HOUSE OF REPRESENTATIVES, SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT, COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION,

*Washington, DC.*

The subcommittee met, pursuant to call, at 9:30 a.m., in room 2167, Rayburn House Office Building, Hon. Douglas Applegate (chairman of the subcommittee) presiding.

Mr. APPLGATE. Good morning to everybody here.

This morning the Subcommittee on Water Resources and Environment is going to continue its hearings on the Clean Water Act. Today we are going to hear from a very distinguished group of Members of this august body.

Perhaps there hasn't in this session, nor for many sessions, been such a very distinguished group of Members from the House that will be gathered in one room.

Tomorrow we will continue to receive testimony from an environmental panel and an agricultural panel. And we are going to proceed very quickly here.

But first I want to yield to the Ranking Minority Member, Congressman Sherwood L. Boehlert of New York.

Mr. BOEHLERT. Mr. Chairman, I have an eloquent statement that I would like to insert in the record at this point and get on with the proceedings, since I am the one that delayed its start.

Mr. APPLGATE. Thank you, Mr. Boehlert.

We have two Members with us right now, and I am going to ask them why not come on up to the table, Benjamin Cardin and my good friend Don Edwards. And we will just take—I am not going to hold to a particular order.

I don't have to introduce Mr. Edwards to anybody. He is the Chairman of Judiciary Subcommittee on Civil and Constitutional Rights. And if anybody wants to know anything about the Constitution, they need only to get in touch with Don Edwards because he is the expert and does a tremendous job. He has also been very interested in wetlands reform and he has legislation before the Congress.

At this time, we will hear from our friend and colleague, Don Edwards.

## TESTIMONY OF HON. DON EDWARDS, A REPRESENTATIVE IN CONGRESS FROM CALIFORNIA

Mr. EDWARDS. Thank you very much, Mr. Chairman.

I am honored to be here before the members of this committee and especially the Chairman of the Public Works Committee, my good friend and colleague, Norman Mineta.

Mr. Chairman, I am pleased and congratulate you for taking action on reauthorizing the Clean Water Act. You have under your consideration the opportunity to make some changes to the Clean Water Act, particularly to legislate reforms of the laws governing our Nation's wetlands.

You know that our wetlands are in a crisis stage in this country. We have already lost 50 percent of our wetlands, and at the present rate of loss of about 300,000 acres per year, you can see the risk we face regarding this important natural resource. I know that I certainly don't have to explain to Members of this distinguished subcommittee the importance of wetlands in this country.

Wetlands play a vital role in the environment, sustaining habitat for fish and wildlife, and providing flood control and many other important functions. What we need are specific provisions in the Clean Water Act on wetlands, provisions that protect farmers, that protect private landowners, and provisions that take charge of the issue in a way that they do not now.

There are too many nonspecific regulations on wetlands and often people don't really know how best to comply with the law.

The bill that you have referred to and that I have introduced in this Congress is H.R. 350. This bill attempts to put some sense into the wetlands regulations regulations of the Clean Water Act in a moderate, intelligent manner. In the first place, H.R. 350 takes care of farmers so that they don't have to worry about maintaining normal, ongoing farming practices on wetlands.

It takes care of private landowners by calling for a fast-track to provide consideration within 60 days of permits affecting wetlands of one acre or less. Everybody certainly is entitled to that.

H.R. 350 expands wetlands regulations to cover some procedures that are not now covered by current law that do great damage to wetlands, such ditching, draining and the indiscriminate removal of vegetation. But I think it does this in a way that would satisfy people.

It has already 67 cosponsors, Republicans and Democrats, and Mr. Chairman, just about every major environmental group, in the country strongly supports H.R. 350.

I have distributed a detailed description of the bill and so I won't describe it very much more, unless there is a question or two. It is time to face up to the crisis that we face in this country, and to include in the Clean Water Act appropriate provisions regarding our Nation's terribly, terribly valuable resource, our wetlands.

I commend you for examining it, and I thank you very much for allowing me to be here today.

Mr. APPLEGATE. Thank you very much, Don.

I was going to go right to Ben, but I think what we will do to expedite each individual Member is to see if there are any other questions that they would like to address.

But I would only say for myself that I have the greatest admiration and respect for you, your expertise and what it is that you are trying to do. And certainly you articulate your position exceedingly

well, and I feel blessed to have your testimony before the committee.

I thank you for being here.

I have no particular questions right now. I think your statement pretty much says just about everything that needs to be said.

Mr. EDWARDS. Thank you, Mr. Chairman.

I do have another committee meeting; I would like to be excused, as much as I would like to hear Mr. Cardin's testimony. Especially since he is talking about the beautiful Chesapeake Bay. I commend his testimony to you.

Mr. APPLGATE. Don, would you yield to perhaps any questions?

Mr. EDWARDS. Of course, yes.

Mr. APPLGATE. Mr. Boehlert.

Mr. Mineta?

Mr. Hayes?

Anybody down the line have any questions for Mr. Edwards?

Well, I guess you do a complete statement, Don, pretty good.

Thank you.

Mr. EDWARDS. Thank you.

Our next witness, we are fortunate to have Ben Cardin from the great State of Maryland and a former Member of our committee. He is now moving on into the ranks of the powerful in the Ways and Means Committee. And he is very interested, of course, in the Chesapeake Bay, which I think most everybody is; particularly on the East Coast, and I think a very important issue to be addressed.

#### **TESTIMONY OF HON. BENJAMIN L. CARDIN, A REPRESENTATIVE IN CONGRESS FROM MARYLAND**

Mr. CARDIN. Mr. Chairman, I thank you for that welcome. It is always a pleasure to return to the committee that I served on in Congress. The Subcommittee on Water Resources has played such a critical role in helping to develop our waterways and clean the waters of our Nation.

I want to congratulate you and Mr. Boehlert on the past work of this committee, and wish you the best in the task that you have ahead of you. I know that the committee is under excellent leadership as it tackles the very difficult problems involved in reauthorizing the Clean Water Act. And it is always a pleasure to be with the Chairman of the committee, Mr. Mineta; He too is to be congratulated for the work that he has done to improve all transportation in this country.

I had the opportunity to serve with both of you on this committee and enjoyed those years. And I regret that I no longer have the opportunity of serving directly with you on this committee.

I would ask, if I might, that my entire statement be placed in the record and I will try to summarize a few of its points.

Mr. APPLGATE. Without objection.

Mr. CARDIN. I appreciate the comments of Mr. Edwards. I think all of us in the Mid-Atlantic region and many across the Nation appreciate the struggle that has been fought to reclaim the Chesapeake Bay. We can be proud of the role that the Federal Government has played in bringing back some of the water quality that we enjoyed as young people on the Chesapeake Bay.

It has really been a success story about good government. It began over 10 years ago, with the signing of the Chesapeake Bay Agreement by the EPA Administrator and the Governors of the three States, Maryland, Virginia, Pennsylvania, and the Mayor of the District of Columbia. Also signing the original compact was the Tri-State Chesapeake Bay Commission Chairman.

The Bay Program has grown as an international model for regional intergovernmental cooperation and long-term environmental restoration and protection.

Later today I, along with many of my colleagues from this region, will be introducing the Chesapeake Bay Restoration Act of 1993. Rarely has a piece of legislation been so broadly and deeply supported.

This bill is supported by every imaginable group interested in the Bay. Each of the regional States and the District of Columbia, industry groups and a wide array of environmental and citizens groups have joined in support of this legislation.

There is perhaps no other issue that so unites the people of the mid-Atlantic States as the cleanup of the Chesapeake Bay. It is our hope that this subcommittee will include language to continue and improve the Chesapeake Bay Program in the new Clean Water Act, as you have done with the prior authorizations of the Clean Water Act.

This year's bill seeks to better coordinate the many Federal activities and responsibilities related to the Bay. Organizing various Federal agencies' efforts in the cleanup has become increasingly important.

Nine Federal agencies now have formal memorandums of understanding with the EPA's Bay office and others manage large tracts of land or major facilities within the watershed.

In addition, a number of ongoing Federal activities relate to the Bay cleanup would be directly unified under this authorization.

One of the offshoot programs begun in recent years that we are now trying to bring under the Bay Program "umbrella" is the toxics reduction strategy. A second is an ongoing effort in the Bay Program of demonstration habitat restoration and enhancement projects.

The EPA continues as the lead Bay Program agency under our proposal while a Chesapeake Bay Federal Agencies Committee is established with representatives from 16 Federal agencies. Federal facilities and activities within the Bay watershed are required to be consistent with the goals of the Bay Program.

And given the fact that we are now celebrating the 10th anniversary of the program, the bill also directs EPA to undertake a comprehensive assessment of the entire Chesapeake Bay Restoration effort.

The Federal role in the Chesapeake Bay Program has been the glue holding the Federal, State and local activities together in the long-term battle to reverse the Bay's decline. There are signs of improvements and many victories.

Phosphorus discharges in the Bay, a key component in the nutrient loading problem, have declined by 35 percent from 1985 levels, in large part due to the ban on phosphorus in detergents and the construction of new sewage treatment facilities. Submerged aquatic

vegetation, critical habitat for many Bay species, has been making a slow but steady comeback due to the overall improvements in water quality. And now, the striped bass population in the Bay is up from dangerously low levels in the early 1980s, based upon a successful management control program.

But the toughest challenges lay ahead and threats to this Nation's most productive estuary remain very real. Nutrient loads of nitrogen have increased 5 percent since 1985. Many key species, including oysters, shad, and white perch, continue to decline.

Toxic concentrations in the Bay are increasing and, more importantly, the population in Bay's watershed is increasing. The region's population grew 40 percent in the last 20 years, and whether by runoff from newly planted lawns or air pollution from automobiles, the pace threatened the overall restoration effort.

Though many challenges remain, the EPA Chesapeake Bay Program is a great success and a model for similar regional efforts. As you shape the clean water reauthorization, I would ask that you continue and strengthen our worthy efforts to "Save the Bay".

Mr. Chairman, I would also like to point out the strong work in developing this legislation and implementing it by one of the Members of your committee, Mr. Gilchrest of Maryland. His district, more than any other, borders the Bay and he has been a key leader in developing community support and bringing together the coalition that has been successful in the Bay's restoration to date.

I appreciate your time and I would be more than pleased to answer any questions that you might have.

Mr. APPELATE. Thank you.

Thank you very much, Ben. I appreciate your testimony, but I think I have no questions.

In reviewing your statement, I think you have covered that very well. And we certainly will be working with you to try to help you to achieve the goal that you are trying to do.

Mr. CARDIN. Thank you.

Mr. APPELATE. Mr. Gilchrest.

Mr. GILCHREST. Thank you, Mr. Chairman.

I would like to make a quick comment.

Ben, I appreciate you coming here testifying on behalf of our State and the Bay. And I particularly liked the idea or the term you used, the glue which holds this program together. And, in fact, the Federal Government's role is as being the glue that holds, not only the different States together, but the municipalities and all of the different regions.

If we are going to protect the Bay, it has to be from a watershed management perspective. And looking at that, we have to understand the Federal Government's role in managing, at least helping those municipalities and the States to manage the growth.

Ben, you mentioned the increase in nitrogen in the Chesapeake Bay and a large part of the cause of nitrogen comes from cars, air pollution, and increased pressure from population growth. And the whole host of things, managed growth, protecting wetlands, point and nonpoint sources, the grasses of the Bay is where it all starts.

This is a piece of a comprehensive program where no agency or Federal or State Governments can excuse themselves. It is a com-

plicated process, and we all have to be a part of this glue that hold itself together.

Ben, I look forward to working with you.

Mr. CARDIN. Thank you.

Mr. APPLGATE. Very well said.

Our distinguished Chair, Mr. Mineta.

The CHAIR. Nothing, other than to thank our colleague for his leadership on this.

Let me thank you for testifying.

Mr. APPLGATE. Mr. Boehlert.

No questions?

Mr. Hayes.

Mr. HAYES. Actually, not so much a question as an observation.

The support, I think, is universal for the Chesapeake Bay area. And in looking at your bill, there are two things that I wanted to ask you in just a moment.

What is the makeup of the council? There is a reference and I have seen references before to the Chesapeake Bay Executive Council. How is that comprised?

Mr. CARDIN. The bill provides for a new coordinating council.

Mr. HAYES. The Federal council.

Mr. CARDIN. The Chesapeake Bay Executive Committee is the final coordinating authority. Currently, it is made up of the Governors of the States that are involved, the Mayor of the District of Columbia, Tri-State Chesapeake Bay Commission.

Mr. HAYES. I see.

And the second thing I simply wanted to point out and elicit your support equally. I noticed that the funding levels, which I am sure in this time of budget constraints, is modest to the need, was \$23 million in 1994 and \$28 million in 1999, progressively. I don't quarrel with those numbers. I suggest that they are much lower.

But I would elicit your support at the same time in looking at the Gulf of Mexico, which in the last presidential budget was \$4.5 million for all activities that would deal with our wetlands and the protection from erosion, and takes in the tip of Texas all the way to the tip of the State of Florida. And simply suggest that we work together in our regions, recognizing that while you are probably underfunded at this level, I absolutely guarantee you that the area that produces about a quarter of the revenue to the United States that is not non-tax collected, clearly cannot sustain itself on levels of \$4.5 million dollars. I appreciate your work on the bill.

Mr. CARDIN. I appreciate those comments.

We are talking about a very small amount of Federal funds leveraging all the other resources that are put into the restoration efforts. We would hope that intergovernmental models, such as the Chesapeake Bay Program, would be used for other water bodies around the Nation. And I can tell you that many of my constituents that spend their summers here in Maryland, spend their winters along the Gulf of Mexico. So I assure you that we have a common interest to make sure that water is clean, too.

Mr. APPLGATE. Thank you, Mr. Hayes.

Mr. Deal?

Mrs. Byrne?

Mrs. BYRNE. Mr. Chairman, thank you.

Ben, I worked on the Chesapeake Bay Committee for the Commonwealth of Virginia in the State Assembly, and one of the things you put your finger on in your testimony, I think, needs some further explanation and exploration, is that the nonpoint pollution—we have made a valiant effort in looking at point pollution as it affects the Bay.

What we are finding is that when it comes down to the issue of land use, and dealing with nonpoint pollution, that the Bay Compact and the whole mechanism starts to unravel. And I was wondering, does anything that you have got in your proposal here really address the land use issue?

Mr. CARDIN. Leslie, I appreciate that question.

The Federal Government's role here is really a coordinating role and to facilitate the activities at the various levels of government. Most of the States have taken action to deal with nonpoint pollution issues.

As I indicated in my original comments and Mr. Gilchrest indicated, a good deal of the problem is non-point sources of pollution—the use of automobiles and acid rain issues, as well as the runoff that naturally occurs from the number of people living in the region. In my State of Maryland, we have passed rather progressive land use management programs, including 20-acre zoning around critical areas, changes in farming practices and fertilization of home lawns. I am aware of similar efforts in the State of Virginia and the Commonwealth of Pennsylvania.

Certainly many of the problems associated with the Bay are caused in the tributaries that lead up and supply the water to the Bay. You are absolutely correct. The role, though, that we have played at the national level is to facilitate local action. I would say that up to this point, I think there has been rather dramatic action taken at the local level to improve the quality of the Chesapeake Bay.

Mr. APPELEGATE. Mr. Filner.

Mr. FILNER. I see one of the advantages of coming late is that you can piggyback on the previous spokes people.

So I would like, Ben, to enlist your support and enlist Mr. Hayes' support for wetland restoration in the Tijuana River Basin in California.

Thank you for your testimony.

And Mr. Hayes, thank you for raising other issues. I need even less money than you two do.

Mr. APPELEGATE. It is good to hear.

Mr. POSHARD.

Mr. POSHARD. I have no questions.

Mr. APPELEGATE. Mr. Hamburg.

Mr. HAMBURG. No questions.

Mr. APPELEGATE. Ms. Molinari.

Ms. MOLINARI. No, thank you, Mr. Chairman.

Mr. APPELEGATE. Ben, thank you again.

We are privileged to have Mr. Barney Frank.

#### TESTIMONY OF HON. BARNEY FRANK, A REPRESENTATIVE IN CONGRESS FROM MASSACHUSETTS

Mr. FRANK. Thank you, Mr. Chairman.

Mr. APLEGATE. Needless to say, I think everybody knows Mr. Frank. He is the Chairman of the Banking Subcommittee of International Development, Finance, Trade and Monetary Policy and has been extremely active in the cleanup of the Boston Harbor, as well as very active in other environmental issues.

I would suggest that if you keep the speed of your speech down so that we could understand it, we would appreciate it.

Mr. FRANK. Sometimes being understood is important and sometimes not being understood is important.

I appreciate the chance to come here early, and I am glad your subcommittee is looking at this now so that we get a full look. I think we should have broad agreement across ideological and partisan lines as we reauthorize the Clean Water Act, and the Federal role in providing funds ought to be increased over where it has been.

I think there are generally legitimate complaints about Federal mandates that aren't always thought out. Obviously, the local governments and the people who live in the areas are the prime beneficiaries and they have to pay, but I think we have tilted too far in one direction.

Also, talking to the people in the district I represent who are under a mandate under the Clean Water Act, they have made some suggestions which appear to me not to cost the Federal Government any money but would, by increasing the flexibility, allow them to save some money overall. Because I am concerned not just with Boston Harbor, which is a major concern to the people of Massachusetts, but the cities of New Bedford and Fall River, which I represent in whole and in part, respectively. And a colleague Peter Blute from Massachusetts represents the other half of Fall River.

One of the suggestions, for instance, which was made to me, and I was hoping this was something that we might be able to move on somewhat quickly on an interim basis. The municipalities have told me that if the statute were amended so that they could issue 30-year bonds instead of 20-year bonds on some of these projects, they would save a lot of money. And, obviously, people are familiar with that.

A 20-year mortgage versus a 30-year mortgage, saves you money. Here is a situation with no financial impact on the Federal Government, it seems to be wholly responsible because these are projects that last more than 30 years.

We are not talking about bonding for 30 years a program that has a four- or five-year life. And I have been told by people in the areas that I represent, by their bond contractors and others, that simply amending the law to let them go to 30 years on the bond and allowing that to be retroactive, in some cases, would save them a lot of money. I would hope that we might even look at doing that as an interim measure pending the overall reauthorization.

The other point I would say, as I understand it, the current assumption is that the funding from the Federal Government to the various State revolving funds ends in 1998. And I gather that was the assumption under which President Reagan was persuaded to sign the last reauthorization.

The CHAIR. It is 1994. Under the present law, it is 1994.

Mr. FRANK. I agree. But the assumption at the OMB and the EPA was that it would go to 1998. That seemed to be in their budgetary assumptions.

If we were to continue, if we make a commitment to continue the funding, we would also have an enormous impact, we would be alleviating the impact on the communities. I don't understand why the Federal Government ought to get out of the business right away, and it would seem that the States would have more flexibility in terms of the reimbursement rates from the local communities.

In terms of people in much of Massachusetts, which is a State in which there has been a strong environmental strain and where there are people that care a lot about the environment, if the people in Massachusetts and greater Boston, New Bedford, Fall River and the City of Lawrence, and elsewhere, are told that there is to be no change in the financial impact of complying with the Clean Water Act, you are going to see, I think, a large number of people in Massachusetts telling us to weaken the Clean Water Act. People forced to choose between the economic survival of their communities and clean water, will choose their communities.

I don't want us to put them to that choice. I am confident that we will be able to avoid that in this bill. That seems to be the stakes.

I have walked through factories in New Bedford that are water intensive. They are faced over a fairly short period of time with a 300 percent increase in water rates at least. And when some of them leave, those that are left behind have to pay higher rates because the amortization stays the same.

So we are talking about a degree of financial hardship on people who are not particularly wealthy, in communities that have already had economic problems and they are going to say don't do that. My preference is for a set of amendments to the Clean Water Act that extend the funding and do other things that would ease the financial burden.

If I had to choose between the current level of burden that the municipalities are going to be hit with, if I had to choose between that and weakening the requirements of the law, I guess I would vote for weakening the requirements of the law.

I don't want to do that. But I don't think we can put people to that choice and there are alternatives. So I would hope that we could make the decision that we were going to explicitly continue the funding, and give the States more flexibility.

In the State of Massachusetts, for instance, I think we could get the State to increase its own share of the funding, but also ease the repayment terms substantially for many of the municipalities that are otherwise facing problems. There are problems for Massachusetts such as the restriction that only 20 percent of the State's funds can go for CSOs.

I don't understand why that was in there. I think for Massachusetts that could be a potentially very serious problem. And I want to urge that maybe we could take a look at a short-term move to go from 20 to 30 years on the bonds.

I have been told that this will have an impact on easing the financial impact, and I can't see a negative from the standpoint of

the Federal Government. I will have more specifics in this regard, but removing that CSO restriction, increasing the bonds from 20 to 30 years, and committing now to an increased level of Federal funding chronologically, not in any one year, but that we keep it going well into the next century, I think that, coupled with more flexibility for the States in repayment terms, frankly, from our standpoint, saves the law. Because it makes something that would be intolerable, tolerable for the people in our communities.

Thank you, Mr. Chairman.

Mr. APPLGATE. Thank you very much, Barney.

I would only say that it is true that if communities had to make a choice between their survival or cleaning up sewer and water, they would pick the survival of their communities and we don't want to have to pit one against the other.

The other is the 20- to 30-year payback. I think that makes sense, and it seems to be what most people who have testified before the committee feel. And I think that is going to be given the strongest of consideration.

And, of course, the third thing would be flexibility, and the States do need more flexibility.

Mr. FRANK. Mr. Chairman, I don't know what your time table is for the whole reenactment, but if we are not going to get to that until next year, I wonder on the 20 to 30 years if you could initiate an interim measure to do that. Even if that was to expire when the whole act was to expire.

It seems that we might be able to do that on suspension and it seems to be one that is a win/win for everybody.

Mr. APPLGATE. I don't have any problem with that. We will have to see what the possibility is.

Mr. FRANK. I can see since Boston Harbor is very prominent here. If to advance that goal, if the Rules Committee could be at all helpful, I am inclined to think they would be. Like that amendment would be in order and anything you wanted.

The CHAIR. I have a question on that. Part of the reasoning, as I understand it, for the 20-year bond limitation was, first of all, the design life of the plant. Secondly, it was because the way it was thought, it could recycle the State Revolving Fund monies more rapidly. You have indicated that it would be less costly to the communities if we went to a 30-year bond. I assume that what you are saying there is that the yearly cost of that is going to be less. But I would assume that the aggregate, it would be more expensive, because just as a 30-year home mortgage is more expensive than a 20-year home mortgage, just because of the additional cost, but on the annual increment it would not be as much.

I was wondering, New Bedford is how large a community?

Mr. FRANK. About 97, 98,000.

The CHAIR. Well, that is a little larger than I was anticipating, but since we have gone to this State Revolving Fund, it seems to me that there are many communities that cannot afford the cost of going through the State Revolving Fund. And I was wondering if in the case of Massachusetts or some of these other cities, whether or not we would be maybe better off going for small and rural communities, going back to some kind of a grant program rather than having it to be all through the State Revolving Fund.

Mr. FRANK. I think it is a very important option. You could even have a hardship type of a situation. Some of the people suggested to me that in addition the option could be either a direct grant or a direct loan program, that some of them might be able to do this more quickly and flexibly if they didn't have to go through the State fund.

But we have a couple of really small communities. The City of Fall River is another one that is about the same size, 90,000. It is an old city. We have old everything there and it is going to cost them a lot of money because they have to do, not just the treatment, but a CSO operation as well, which down the road costs them even more money. I think that would be useful.

In regard to your other point, which is a perfectly valid one, what I am told now is that the state of art is such that these are all more than 20-year life. That maybe that was a problem at the beginning but they are consistent that they are designing projects that have 40- and 50-year lives.

And the other reason on the 30 is this, Mr. Chairman, and that is it is true, obviously, overall it costs you more, but one of the things they are facing is the initial price shock that could drive people out of the city. And what you then have is, you know, after the 20 years, if it is all paid for, theoretically there might be an abatement in the price. But a whole lot of people wouldn't be left around to pay for it, particularly manufacturers who have any kind of water intensity. Because they will move. And we face a severe likelihood of industry moving out.

I would certainly want to work with you on an issue like that as well.

Mr. APPLGATE. Mr. Boehlert.

Mr. BOEHLERT. I want to thank my colleague for his usual eloquence. I want to ask him to answer a proposal that has been advanced before this subcommittee.

It is called the "Principal Subsidy Plan" and it argues against resurrecting a grant program and argues for continuing the State Revolving Loan Program, but gives to the States flexibility. And in recognition of those hard-pressed communities, where they can't come up with the next nickel and would perhaps subsidize some of the principal repayment. Give me your thoughts.

Mr. FRANK. It seems to me that there are variations. I agree with that. It seems that we can be complying with what most of us talk about, local autonomy and flexibility.

Let's give the State the right to waive reimbursement and structure the terms that are better for people because you will have differences within the State. I think that would be a very useful way to do it, which would be to say the State will have the flexibility to restructure those terms.

Now, again, I couple that, though, with the argument that we have to make a commitment at the Federal level that we are going to sustain contributions to the State Revolving Funds into the next century, because the ability of the State to be flexible in terms is going to be affected if they think we are cutting them off; in two or three years, it is out the window.

But within that context, I think it is a very useful way to do it.

Mr. BOEHLERT. On your 20- to 30-year period, would you be receptive to language that would suggest something along the lines, the repayment period could be constructed in such a manner as to in no instance exceed the life of the project; in other words, you might go 40 years?

Mr. FRANK. Yes, if you want to go beyond that. Whenever a Chairman or Ranking Member asks me a question that begins with "would you be receptive," the answer is probably yes.

To get into the merits, we have had some evolution here. Some of the early projects weren't well designed. We have had some problems. But by now there is a pretty good degree of confidence that we are designing projects that have that kind of life, and I would say yes, that is appropriate.

Again, while it is true that it may cost more—does cost more overall, it is shifting the cost over a different base of people. It is having less negative impact. It is a more rational way to structure it. And while it is true that a 15-year mortgage costs you less over the lifetime than a 40-year mortgage, most people still go for the longer one. But I think that would be very appropriate and moving to give them flexibility.

Mr. APPLGATE. Thank you, Mr. Boehlert.

Mr. Hayes.

Mr. HAYES. Would you be receptive—

Mr. FRANK. Where are you on the committee? You are below the staff desk.

Mr. HAYES. I think that is true in the case of most committees. The question that I have regards banking in the Banking Committee, because what happens too often is that we don't appear before your subcommittee, we don't appear before ours, when policy is made. You made an excellent case for reducing options regarding financing and bonding implications. And I would suggest and ask, that at the appropriate time in your Banking Committee, that there are other policy considerations that affect institutional loans as well.

We have gotten into earlier testimony from municipalities and counties who come into not only financial problems but time delays on environmental permitting and we come into problems with private land for water for sewage and compliance with clean air. And we come again and again to individual property owner rights, where the answer is unless the use of the property is completely denied, that it hasn't had an impact.

Suppose you have a financial institution in Boston holding the mortgage and we make changes here thinking solely in terms of a delineation manual. And because right now that bank holding the mortgage in Boston doesn't know whether the property mortgage will or will not be so classified. I suggest that we ought to all be receptive to the realization that we could bust some financial institutions, especially in areas like mine and parts of Massachusetts, if we change the rules about what they are holding as collateral.

I think the interchange of the committee work ought to be far more frequent and accessible. And would ask that, if you could do so, to have the Banking Committee look into the impact of what we are doing in water quality on financial institution collateral holdings.

Mr. FRANK. I think that is exactly right, because while this is a new aspect of it for me, that you suggested to me, I have been working on it in connection with the Superfund liability with the lender liability, and it is a similar situation. And I believe that the current state of the law, it interferes with our ability to get housing built. I have been talking to Al Swift in Energy and Commerce, maybe the Chairmen of the various committees could set up an informal entity to work.

You are familiar with the lender liability issue and it is similar in terms of people who are lending in good faith finding that they are very adversely affected.

Mr. HAYES. Nor do I think it necessary to give us any environmental quality. It is not true that therefore there is environmental damage.

What we are saying is if the public purpose outweighs the interest of the private individual or financial institution, then government has a responsibility to react to it rather than to simply say you lose. To not say that we don't have unenvironmental or environmental projects without quality, but that we recognize that when we make the one decision on behalf of the public, we have an obligation on behalf of private owners and governmental entities trying to do similar public person construction.

Mr. FRANK. I agree. I think the greater danger to the achievement of stronger environmental standards is if the Federal Government and other agencies of the Federal Government are too unwilling to put up some money. I think you are more likely to have people turning unfavorable to environment concerns if they are left with bad financial considerations.

I think that in fairness in the financing, if the public is the beneficiary, the public ought to pay some of the price.

Mr. APPELATE. Mr. Gilchrest.

Mr. GILCHREST. Thank you, Mr. Chairman.

Mr. Hayes, just a comment on your questioning of Mr. Frank.

I think all of us, and I think you make a good point when you say we need to look at all of the potential hardships that are placed on the community with overburdened Federal regulation. And when we move into the Clean Water Act, I think we have to keep our minds open, eyes open and options open to create laws that are reasonable, logical, and can be accepted by local community who usually bear the burdens of the difficult financial situation.

Mr. HAYES. Would the gentlemen yield?

Mr. GILCHREST. Yes.

Mr. HAYES. And with regional flexibility. So while much of your area looks like South Louisiana, Barney has a different problem with Boston and the outlying areas, as I do in New Orleans and the southwest Louisiana area. I think the idea of regional compacts across the Nation with a treatment consequential to their topography and geology makes equal sense.

Mr. GILCHREST. I think it does, too.

Mr. Frank, people have used the word "flexibility" and you have used the word "evolution," and I think we are all becoming more sophisticated in some of these issues to understand that flexibility is a key to the success.

I want to throw out an idea to you and have you, I suppose, respond to it. I agree with you on the State Revolving Loan Funds should continue to be funded by the Federal Government, at least through the year 2000, and maybe beyond, considering all the ramifications that has in a positive way on States.

We have reached a point where we need to look at improvements and alternatives to the conventional way that we create these waste water treatment plants. Normally, in the past we set one up and the life was about 20 years and the whole thing had to be redone.

If you set one up for 30 years, then they are going to have to be redone in 30 years at probably the same cost that it was built at in the first place. So alternative ways of treating human waste, I think, is an idea whose time has come and we need to pursue looking into that in a scientific fashion.

Mr. FRANK. I, obviously, agree with that. Here, I must say, is an area where I think many of us in the House would be deferring to the expertise of yourself and the people you work with when you get into the areas of what are the forms of treatment. I anticipate that it is less likely that I am going to know anything about that than the financial implications.

But there will be people in the House rooting for you. But if there are or could be more efficient ways to do it, everybody would be in favor of that.

Mr. GILCREST. Thank you.

Mr. APPLGATE. Thank you, Mr. Gilcrest.

Mr. Filner.

Either of you gentlemen have anything?

Nothing?

Ms. Shepherd.

Okay. I guess you handled it pretty well.

Mr. FRANK. Thank you, Mr. Chairman. I am encouraged. I think we can improve what people are facing substantially without any serious problems to ourselves.

Mr. APPLGATE. Thank you very much, Barney.

Okay. I think we have four Members. I am going to ask them all to come up right now.

As I say, possession is nine points, so once you get the table, that is it.

Mr. Lipinski.

Mr. Visclosky.

Mr. Ackerman.

Mr. Shays.

You are chairing a committee right now, Bill?

Mr. LIPINSKI. Yes, I am.

Mr. APPLGATE. And you had asked that you be allowed to get on early and as a Member of the committee, a former Member or Member now.

I think what we will do is allow you to give us your thinking that we need today.

I can only say that Mr. Lipinski has been very interested in the situation that has happened in Chicago and the systems that they have there. And the system that prevented apparently a billion gal-

lons of raw sewage from getting into Lake Michigan, but a system that needs to be updated.

We will allow you to proceed.

**TESTIMONY OF HON. WILLIAM LIPINSKI, A REPRESENTATIVE  
IN CONGRESS FROM ILLINOIS**

Mr. LIPINSKI. Thank you very much, Mr. Chairman.

And, yes, I still am a Member of the Public Works and Transportation Committee, even though I am not a Member of the Water Resources Committee. I would have liked to have been but, unfortunately, it was all filled up by the time I got around to making my third selection.

Good morning, Mr. Chairman and Members of the subcommittee.

Thank you for this opportunity to present my views on behalf of the Metropolitan Water Reclamation District of Greater Chicago. I would like to express my appreciation for the many years of support this subcommittee has shown for water pollution control programs in Cook County, Illinois.

I would like to provide you with a progress report on the district's landmark plan to provide flood pollution control benefits to the people of Cook County, the Great Lakes States and our Canadian neighbors. This is also the opportunity for me to make a request of the continued Federal involvement in addressing the combined sewer overflow problems faced by my constituents.

Over two decades ago in an effort to meet the water quality goals of the Clean Water Act to prevent back flows into Lake Michigan and to provide an outlet for flood waters, the district designed the innovative two-phase tunnel and reservoir plan also known as TARP. Phase one is a combined sewer overflow elimination system, while phase two will provide containment reservoirs.

Both elements of TARP will bring flood control relief to hundreds of thousands of residents and businesses in the Chicago lands area. TARP phase one is an intricate system of drop shafts, tunnels and pumping stations. These are designed to capture combined sewer overflow from a service area of 375 square miles, containing 13,500 miles of sewers.

Of the 110 miles of tunnels comprising TARP Phase One, the largest is the main tunnel—excuse me, the mainstream tunnel. To give you some idea of TARP's capacity, the completed portion of the mainstream consists of 31 miles of tunnels, 13 to 33 feet in diameter and 240 to 300 feet below ground. The mainstream portion of TARP was funded through the Construction Grant Program and placed in operation in 1985.

I am pleased to point out that mainstream was completed on schedule and under budget. Frankly, this accomplishment is extraordinary considering TARP's scale and the engineering complexity involved. On October 18, 1985, the first operational filling of the tunnel occurred. This happened when a 12-hour duration rainfall generated 3 inches of rain in the Chicago metropolitan area.

A rainfall of this magnitude normally causes health-threatening water pollution and back flows of raw sewage into Lake Michigan. However, as a direct result of TARP, over 1 billion gallons of combined raw sewage was prevented from being discharged into the

Cook County waterways. Additionally, flooding into the areas adjacent to the mainstream tunnel was virtually nonexistent.

I would suggest that this proven effectiveness of TARP serves as a model of how Federal dollars can be well spent.

Mr. Chairman, in the first a years of operation, TARP has eliminated 75 percent of the combined sewage pollution problems throughout most of the Chicago land area and its 15 nearby suburbs. However, the program faces uncertainty today. As you know, funding authority for the construction grant program has elapsed and the State Revolving Fund Program is underfinanced.

If this situation is not corrected soon, TARP's construction will not continue on schedule. While the district has 85 miles of tunnel completed, or under correction, it still has about 25 miles to complete, along with a pumping station and some additional elements.

If the construction grant program is not reauthorized, I would suggest to you that we jeopardize losing the very benefits district engineers have worked so hard to achieve.

Throughout TARP's development the district has worked closely with the State of Illinois and local authorities. However, the financial scope of this program has always been beyond the capacity of local resources. Fortunately for the people of Cook County, Congress has remained committed to making up the difference. This continued Federal involvement is necessary if tap TARP is to be complete. Obviously, the job is not yet finished.

EPA has consistently found TARP to be the most cost-effective solution for reducing storm impact on Chicago and the surrounding metropolitan area. What is important to the district and to the citizens of Cook County is to protect the investment already made through the construction grant program.

Mr. Chairman, TARP stands as a tribute to our Nation's clean water goals. In an effort to protect this investment, I am requesting that the subcommittee continue Federal involvement throughout the construction grant program. The program should be authorized at or near its pre-1986 level of \$2.4 billion. Of this amount, the district will request \$500 million to complete Phase One.

Again, I appreciate this opportunity to testify here today. I am confident that with adequate funding of projects like TARP, we can achieve the goals of the Clean Water Act.

I make this request on behalf of the district, the entire Great Lakes Region and the people of Cook County Illinois.

I thank you for this opportunity to testify, Mr. Chairman, before your subcommittee. I want to say in closing that this TARP program in the Chicago land area is really something to see. And if you or any Members of your subcommittee would be interested in taking a tour of this, the Water Reclamation District of Greater Chicago would certainly like to facilitate that.

Mr. APPLGATE. Thank you very much, Bill. Very good statement.

We certainly can understand the problems that you are having in Chicago, but they have done well with what they have. But apparently there needs to be an updated project to take care of the inefficiencies that do exist.

Does anybody else on the committee have any—Mr. Poshard?

Mr. POSHARD. Mr. Chairman, only to lend a word of encouragement to the gentlemen from the north end of my State. Bill has talked to me on many occasions about TARP and the efforts that they are putting forward there to resolve a complex problem for a city the size of Chicago.

I would like to advocate for Bill, and lend my support for your cause. Thank you for appearing before the committee.

Mr. LIPINSKI. Thank you very much for that.

Mr. APPLGATE. Thank you, Mr. Poshard.

I would remind the people that the Lipinski is a Chairman of the Subcommittee on Merchant Marine and does a tremendous job chairing that committee.

All of your statements will be made a part of the record.

**TESTIMONY OF HON. GARY ACKERMAN, A REPRESENTATIVE IN CONGRESS FROM NEW YORK, AND HON. CHRISTOPHER SHAYS, A REPRESENTATIVE IN CONGRESS FROM CONNECTICUT**

Mr. APPLGATE. Next we are going to go to the first ones in and we are going to go with Gary Ackerman, who is also very interested in Long Island, improvement of water quality on Long Island Sound. He Chairs the Subcommittee on Asian and Pacific Affairs and has been appointed to the Merchant Marine Committee.

It is good to have you.

Mr. ACKERMAN. Thank you very much, Mr. Chairman. And I am glad that Chairman Lipinski saw me here. I don't need an absent note as to I why I am not before his committee right now.

I am here today with our colleague, Congressman Shays and he is the Chairman of the Long Island Sound Caucus and has done tremendous work in this area.

With your permission, we have a full joint prepared statement that we would like to submit for the record. And if I may, I will summarize and Mr. Shays will have some comments.

Mr. APPLGATE. Proceed, and it will be included in the record.

Mr. ACKERMAN. If you have any questions, we are receptive, very, very receptive, as receptive as you need us to be, we are receptive.

Thank you very much.

We appreciate the opportunity to come before the subcommittee and to express our desire to see action on one of the Nation's most important waterways and to encourage the inclusion of the Long Island Sound Restoration Act in the bill. And also to express our hope that last night's victory of the Islanders over Washington at the Cap Center is indeed a harbinger of things to come.

In 1987 Congress recognized the Long Island Sound as an estuary of national significance. This far-sided program symbolized the committee's and the Congress' understanding of the importance of our Nation's coastal waters.

It is difficult to underestimate the importance of the Long Island Sound. In the many bays and harbors along the North Shore, the Long Island there are swimmers, nearly 1 million boaters, sports fishermen all other manner of water use.

The recreational use of the Sound added \$5 billion to the Nation's economy in 1990, which is the last year that we have complete figures for.

Fifty three million dollars of commercial fish were caught in the Sound and at least \$400 trillion worth of fish got away, if you believe the stories told by the sports fishermen.

Refuges on the Sound attract migrating birds and other forms of wildlife. The Long Island Sound study, with the participation of the EPA and the States of New York and Connecticut, has completed its work and issued a comprehensive conservation and management plan.

The CCMP provides a valuable road map to cleaning up the waters in the Sound, but the study estimates that controlling one of the problems, low-dissolved oxygen called hypoxia, will cost up to \$8 billion or more. Some of this money will be coming on line we hope as the government begins to fund the SRF program. Other funds are being provided by the States of New York and Connecticut, but there is a real need as we are waiting for this money, to begin the process, and especially to create a comprehensive demonstration project to test the technology that is already available.

A legislative commission in New York already has a plan ready to go to develop management practices, for example, in Manhasset Bay. Now technologies are being developed to upgrade sewage plants to meet higher dinitrification standards.

The purpose of land use control is beginning to be understood as is the control of nonpoint source pollution. The Long Island Sound Commission understands what needs to be done and is ready to act.

Our legislation in the Long Island Sound Restoration Act has served as a model to other estuaries as their plans are completed. Our plan calls for an investment of \$250 million over a five-year period. This would include a 70 percent Federal contribution, a 25-percent State match and a 5-percent local match.

Demonstration programs would target certain important bays and harbors on both sides of Long Island Sound. The goal would be to rejuvenate these areas. The States working in conjunction with the Long Island Sound management committee would develop a process for choosing when areas would participate.

We will target areas which are heavily used, have wide varieties of fish and wildlife and are vital to the health of the communities. It is important to note that the solutions created will be comprehensive in scope.

Improvements would target sewage treatment issues, floating debris, pollution from boaters as well as other problems. We would also address land use issues, education and restoration and construction of important waterfront facilities.

Nonpoint source pollution would be at least important as point source as we estimate that 50 percent of the nitrogen loading in the Sound comes from nonpoint sources. Approved plans would encourage greater use of such techniques as buffer strips, stricter land use protection, and the placement of sediment and runoff basins. We would give priority to wetland and other important wildlife habitat. The idea is to see how various techniques and technologies can be integrated.

We would hope that this would not only point the way for the effective implementation of the Long Island Sound Study but all efforts to improve our coastline. This plan could serve as a model for other areas.

Mr. Chairman, we hope—hopefully, we are at an historic moment with an administration and a Congress both having an enhanced understanding of the importance of environmental protection. And we also believe that spending of this sort provides tremendous dividends in environmental protection, jobs, and the quality of life. It will continue the work of the Clean Water Act in restoring this very important waterway.

This committee, Mr. Chairman, wisely spent \$12 million on the study of the Long Island Sound in the Clean Water Act. What now?

We don't get clean water just from studying. It is time to begin to act on the recommendations of the study that you funded.

We thank this committee for leading the effort.

Mr. APPLGATE. Thank you very much, Gary.

I think what we will do is scoot on over to Chris Shays.

I just mention that Chris, who represents Bridgeport and part of the Connecticut coastline, and they do have a joint statement pretty much interested in the same things. And Chris is a Member of the Budget and Government Operations Committee.

Mr. SHAYS. Thank you, Mr. Chairman and Members of the committee.

I would just add to the comments made by Mr. Ackerman, and thank you for conducting these hearings and I recognize the very important work that you are doing.

During the course of the Long Island Sound Study, we were shocked to learn the tremendous amount of money we might have to spend on sewage treatment plants to deal with the direct source pollution, and we began to realize that it is simply not going to happen. And what started to happen as a result was that communities were seeing ways that they could get some of the nitrogen out of the water without spending hundreds of millions of dollars. And we learned, for instance, in the City of Stamford, Connecticut, which I represent, that they were able to go to secondary plus and get 70 percent of the nitrogen out of the water stream by simply going to a program which they called "nitrification denitrification" for \$10,000. They used the excess capacity in the plant and brought the effluent back and were able to get 70 percent of the problem.

It is mine and Mr. Ackerman's feeling that we have a lot to learn in dealing with this issue and rather than having communities all over the country going to tertiary treatment that we could go to secondary plus. But the way to do that is to learn from other sewage treatment plants.

So our program would be in fact a study. It would have established, as was pointed out, six demonstration programs where we would do not only the point sources but the nonpoint sources. We feel by doing this that your committee can save hundreds of millions of dollars, in fact, billions of dollars by learning what works and doesn't work.

In the Long Island Sound area it has been pointed out that we have 14 million people. We are losing the Sound. We know we have to take action.

We know other communities have to. We know that this is one estuary out of over 100 around the country. We know that we get 75 percent of our fin and shell fish food from the estuaries. Tremendously important in terms of a source of food and recreation.

We would really hope that your committee would recognize the absolute essential nature of having demonstration programs where we do the work and then learn from it.

I conclude my statement by saying to you that these demonstration programs would involve monitoring what we are doing and reporting back, and from that, we believe that you will learn ways to save literally billions of dollars in knowing what works and knowing what gets the biggest results for the least amount of money.

Thank you.

Mr. APPLGATE. Thank you very much, Chris.

Apparently, as you say, the nonpoint sources, that is really the big problem that we are having throughout the entire country.

The sources of nitrogen, are those just basically rural or where does it primarily come from? Does that seem to be the biggest—

Mr. SHAYS. Let me say that when we look at point sources that about 33 percent of all the nitrogen contributed into the Sound comes from point sources. The nonpoint sources is 68 percent. But out of the 68, 44 percent is natural. It happens anyway.

The enrichment, the man-made contribution is 24 percent. And we are talking about runoffs from our roads, our parking lots, we are talking about septic systems that aren't a direct point source—not the sewers but the septic systems. And what our bill would do is mobilize the community and take, for instance, a harbor, deal with the sewage treatment plant, which will take the most amount of dollars, and then it would mobilize the rest of the community to look at the septic systems, look at the road runoff, what factories are contributing, and monitor what they are doing, and see what we are doing in terms of boats themselves and what they are contributing. It would be a total comprehensive plan.

We might make a significant reduction in our nonpoint sources with very little money, but we don't really know because we have never tried it.

Mr. ACKERMAN. I might add, Mr. Chairman, if I may, that one of the intriguing parts of the diversification of the communities that are on the Sound in the six projects would be collected one from the County of Nassau, one from Suffolk, one from the City of New York, one from Westchester and two from the State of Connecticut. So you have a regional approach that you were alluding to earlier.

Mr. APPLGATE. As you pointed out earlier, you both have a lot to learn. And if you think that you do, you can stand in our shoes, as you do on your own committee's, and you listen to all the experts out in front of you who do know a lot more than we do. We have a long way to go. And then we have to take and finalize it into some kind of legislative form, and we hope to God that we are going to be right in what we do and make it work.

Mr. SHAYS. If I could make one point. If the committee views the \$250 million over five years as greater than they could fund, you could take the same demonstration program and make it three

projects instead of six. But it is absolutely essential that we begin the process of having demonstration programs.

Mr. APPLGATE. We will be dealing with all of those things. And, of course, the money part will be something that we will have to get into. It is going to be a little bit difficult, but we are going to work on it.

Does anybody have any questions that you would like to ask?

Mr. Clinger.

Mr. CLINGER. No questions.

I would like to commend our colleagues for a very substantial contribution to our work and recognize the extraordinary value of the Long Island Sound as a principal body of water in this country that needs to be protected.

Thank you.

Mr. APPLGATE. Any questions from the Democrat side?

Thank you very much for your expert testimony. It was very, very good. And certainly will be useful to us.

Mr. ACKERMAN. Thank you.

Mr. APPLGATE. We are blessed in having Pete Visclosky from neighboring Indiana, and a very powerful Member of the Appropriations Committee. He has always been interested in meeting the clean water goals and environmental issues and it is going good to have you before the committee.

#### TESTIMONY OF HON. PETER VISCLOSKY, A REPRESENTATIVE IN CONGRESS FROM INDIANA

Mr. VISCLOSKY. Mr. Chairman, thank you very much. I appreciate the opportunity to appear before yourself, Mr. Boehlert, as well as the other Members of the subcommittee.

The congressional district I represent in Northwest Indiana has abundant rivers and wetland, and it is the home of the Indiana Dunes National Lakeshore. These natural treasures coexist with a major urban industrial center.

The district that I represent produces more steel than any State in the United States of America. I am keenly aware of the importance of balancing our efforts to improve Northwest Indiana's and the Nation's water quality with the economic development concerns.

Towards that goal, I would like to focus the subcommittee's attention on legislation I am introducing today to expedite the cleanup of our Nation's waters. The National Clean Water Trust Fund Act of 1993 would create a trust fund established from fines and penalties and other monies collected through enforcement of the Clean Water Act, to help alleviate the problems for which the enforcement actions were taken.

Currently, there is no guarantee that fines or other monies that result from violations of the Clean Water Act will be used to clean up the water. Instead, the money goes into the general fund of the U.S. Treasury.

I am concerned that EPA enforcement activities are extracting large sums of money from industry and others through enforcement of the act, while ignoring the fundamental issue of how to pay for the cleanup of the water pollution problems for which the penalties were levied. If we are really serious about ensuring the successful

implementation of the Clean Water Act, we should put these enforcement funds to work and fully clean up our Nation's waterways.

Specifically, my bill would establish a National Clean Water Trust Fund within the U.S. Treasury from fines penalties and those monies including consent decrees obtained through the enforcement of the act that would otherwise be placed in the general fund. Under the proposal the EPA administrator would be authorized to prioritize and carry out projects to restore and recover waters of the United States using the monies collected from the violations of the Clean Water Act.

However, the legislation would not preempt citizen's suits or preclude EPA's authority to undertake and complete supplemental environmental projects as part of settlements related to violations of the Clean Water Act or other legislation. For example, last month Inland Steel announced a \$54.5 million multimedia consent decree which includes a \$26 million SEP and a \$3.5 million cash payment to the U.S. Treasury.

I strongly support the use of SEPs to facilitate the cleanup of environment problems that are particularly prevalent in congressional districts such as mine. However, the bill would dedicate the cash payments to the Clean Water Trust Fund.

The bill further specifies that remedial projects be within the EPA region where enforcement actions were taken. I think that is particularly important to the Great Lakes States, the Midwest and Northeast, States like Ohio, Indiana and New York.

To illustrate how it would be effective in cleaning up our Nation's water, I would like to highlight the magnitude of the fines that have been levied through enforcement of the Clean Water Act. Nationwide, in fiscal year 1992, EPA assessed \$61 million for penalties under the act. These penalties represent 43 percent of all penalties assessed by the EPA under various environmental statutes.

In Region 5 alone, in fiscal year 1992, the EPA collected \$2.270 million in civil penalties for violations of the Clean Water Act. These funds were the result of five consent decrees and 11 administrative penalty orders. So far this year, EPA Region 5 as collected over \$2 million in civil penalties.

I am pleased to inform you that the legislation has already garnered the endorsement of several environmental organizations in Northwest Indiana, and I am encouraged by the initial indications of potential support within the national environmental community and Northeast-Midwest Congressional Coalition.

I would add, however, there are no specific endorsements that have been made of the legislation by any of these groups to date.

I would also like to point out that in a 1992 report to Congress on the Clean Water Act enforcement mechanisms, an EPA working group recommended amending the Clean Water Act to establish a National Clean Water Trust Fund.

I would also ask that the hearing record remain open that additional comments could be received on the proposal.

Finally, this morning I would like to focus your attention on why we believe it to be part of the solution in approving the Clean

Water Act. However, we know all too often the magnitude of the challenge is staggering.

I would like to emphasize my strong support for improvements in and increased funding for programs to address contaminated sediment, remediate waste water treatment control of storm water discharges, combined sewer overflow policy in the reauthorization. There is no question that all of these issues need to be addressed.

However, it is less clear how States and municipalities and other political subdivisions are going to be able to comply with the more stringent Federal mandates.

I recently surveyed local officials in my district to understand their various needs as well as the costs that would be involved. I was informed that the price tag for necessary projects in the First Congressional District of Indiana, would be over \$118 billion.

Mr. Chairman and Members of the subcommittee, clearly you have your work cut out for you. I respect the efforts that you have put forth to date, and the energies that have been exhibited here and would want to support your efforts.

Thank you very much.

Mr. APPLEGATE. Thank you very much, Pete.

I would also mention that Pete is a very active Member of the Steel Caucus we have. And, in fact, is Chairman of the Executive Committee of the Steel Caucus. And has been very active and is a Member on that Steel Caucus.

We both understand the importance of the infrastructure to the steel industry, as well as all other industries, and in this regard, with regard to clean water and clean drinking water and other aspects of infrastructure directed that way, how important it is. And it is a constant struggle.

I have steel mills in my area and I have serious water problems in my area, too. In fact, the whole country has a lot of problems with regard to that. And the enormity of it shows up when you are trying to sit down and figure out how much money it is going to take to try to make the corrections. And it is a long, long-term and a big-bucks project.

But, hopefully, we will be able to come forth working with some of the other committees to find a resolution to it.

But I thank you for your statement. It was very, very excellent. It will mean a great deal to us.

Does anybody have any other questions?

Mr. Poshard.

Mr. POSHARD. Mr. Chairman, I don't have any questions of Pete, but I do have a statement for the record that I would like to either read or enter into the record for the present time, and ask unanimous consent to enter it into the record.

Mr. APPLEGATE. It will be made a part of the record.

[Mr. Poshard's prepared statement follows:]

#### STATEMENT OF HON. GLENN POSHARD

Mr. Chairman and fellow members of the Subcommittee, thank you for the opportunity to present to you my views and concerns about the impact of the Clean Water Act on rural America. I appreciate the fact that the reauthorization of this Act is of utmost importance to this Committee and to the nation.

This Subcommittee has heard several days of testimony regarding the needs of small, rural communities. I would like to add my voice to the chorus asking for

funding mechanisms and perhaps, new approaches to helping the small, poor areas of the county. Ny new district, the 19th in Illinois, is predominantly rural in nature with many coal mines and farms. Many of the counties in my district have chronic, double-digit unemployment. Therefore, these counties and municipalities simply do not have the tax base nor the economic resources to construct wastewater facilities to comply with the Clean Water Act.

Small communities also need a single source of assistance to provide help in grant applications, packaging of loans, and other economic as well as technical assistance. I would ask the Subcommittee to consider re-instituting a limited grant program or set-aside program for small, rural communities. I would suggest that a separate fund for rural wastewater facility projects be established so that these poor, rural towns do not have to compete directly with the larger, more urban areas of the nation. Last year, Robert Roe, Chairman of the Public Works and Transportation Committee, introduced H.R. 4175, the "Jobs" bill. I worked with Mr. Roe on an amendment to that legislation, the "small communities amendment." This was intended to be a set-aside program for small communities which would ensure that communities under 15,000 in population would receive at least ten percent of the proposed funding as contemplated in H.R. 4175. This set-aside would create a modest funding source to help small communities defray the cost of planning projects and help put those projects into grant and/or application form. Rural governments generally do not have local, in-house planning capacity and need a reimbursement provision to help defray these costs.

I have just held a meeting in the northern part of my district to discuss the organization of a regional water district for the counties of Christian, Macon, Moultrie, and Shelby. This area is in desperate need for a reliable water distribution system as well as wastewater treatment systems. But they are also a poor, rural community and will need Federal and State assistance to accomplish this goal. The City of Charleston has already completed an engineering study, at their own expense, to determine costs relative to an extended sewage line as a means of encouraging industrial development. As I have mentioned, these areas of Illinois have high unemployment and need assistance, both technical and financial, to help their citizens have a cleaner, safer environment.

Mr. POSHARD. Thank you very much.

Mr. APPLGATE. Pete, thanks again, and we will be looking forward to working with you further on this.

We are privileged to have here Congresswoman Marcy Kaptur and Congressman Ed Pastor.

Well, it is always a privilege to have my favorite Congresswoman and favorite lady, and really a very active person with the Ohio delegation, but also nationally. She has served on committees with me, and I have been privileged to be able to receive some good advice from her, on the Veterans Affairs. But now she is on the Appropriations Committee, having gone to Appropriations from the Budget Committee, and she has done so much with so many agencies with regard to the environment. She has been a very strong supporter of the environmental and economic benefits of the Great Lakes and she also was the Cochair of the Northeast Midwest-Coalition, so she is a very active lady and it is nice to have you here.

#### **TESTIMONY OF HON. MARCY KAPTUR, A REPRESENTATIVE IN CONGRESS FROM OHIO**

Ms. KAPTUR. Thank you, Mr. Chairman. It is a pleasure to testify before your subcommittee this morning and to other Members that are here.

I have to say to have one of the Members of our delegation chair such an important committee is a pleasure for me. And I can't think of a more capable Member to take the reigns, and we look forward to working with you.

As you know, I sit on the Subcommittee of Appropriations that has jurisdiction over the Environmental Protection Agency. And I

wanted to restrict my remarks this morning to specific recommendations I have, and then to talk a little bit about the relationship between the Great Lakes and our border with Canada, and the proposed NAFTA agreement and our border with Mexico, in relation to some of the programs that are authorized through your subcommittee.

Let me ask unanimous consent to submit my full remarks for the record and I will summarize.

Mr. Chairman, I first wanted to draw your attention to the importance of the Great Lakes which you have already noted in your opening statement. I would urge you as strongly as I could, to continue the efforts of your subcommittee and specifically designate Great Lakes initiatives as a part of the work of the subcommittee.

We know that 95 percent of the Nation's fresh surface water is concentrated in this region of the country, and my recommendations are as follows: First, a second phase of the Assessment and Remediation of the Contaminated Sediments Program be included in the legislation. As you know, this program demonstrates sediment remediation technologies on a pilot scale at five of the 43 Great Lakes Areas of Concern. And the only one in Ohio is Ash-tabula right now.

By authorizing a second phase, more sediment treatment technology demonstrations could be embarked upon at the pilot level and full scale. And I would recommend that the program will have some sort of technical and financial assistance and outreach to communities which have contaminated harbors, and we have a lots of those on the Great Lakes.

I would ask your committee's cooperation in developing a requirement on the Corps of Engineers' work through the EPA to develop tributary transport models of soil run off for each major river system feeding a Great Lakes Harbor. One of the problems is knowing where the watersheds are that cause the most problems of runoff and we would hope that information could tell us where to identify high-priority watersheds for intensive nonpoint pollution abatement work.

And finally, I would ask to you take a look at conditioned and expanded incentives to encourage the agricultural community to practice conservation tillage and reduce its use of fertilizers and pesticides. I can tell you that the Section 319 grant program has been very, very welcome by our rural community, and I have been surprised by the ability of the farmers through the Soil Conservation Service to work with EPA.

EPA and the wetlands issue, is not a real popular agency in the rural community and yet this program appears to be working and has long-term benefits due to the contaminated runoff problem that we continue to have. Those are my recommendations on the Great Lakes.

In the area of waste water treatment, and combined sewer overflows, I would want to echo some of the comments made by previous speakers in that we do need enhanced financial assistance for small communities sewage facilities.

So many of them just can't afford the cost of this, and my testimony documents some of the problems in my own district. And I would ask that the combined sewer overflow problems be addressed

in a manner that employs site-specific flexible standards that balance both the environmental needs as well as the costs and the economic situation of our local communities.

It is really difficult to know how to help our local mayors, for example. The City of Toledo is currently involved in some sort of litigation with EPA, where they had to pay out three quarters of a million dollars in fees. And as I see this, I think, why don't they put the three quarters of a million into the sewer project? Why are we spending all of this money in the fines, and so forth?

So I think some sort of recognition of what these local communities is facing would be helpful.

I would like to limit the amount of money going to lawyers, if we could. I would recommend preservation of the planning set-aside from the Revolving Loan Fund Capitalization Grants, Section 604(b), and that the mandatory pass-through of funds to regional planning agencies should remain in place at a reasonable level and would ask your committee's consideration of establishing a similar planning set-aside for nonpoint source Section 319 funds.

These planning funds should also have a mandatory pass-through to regional planning agencies at a reasonable level of funding.

Mr. Chairman, finally I wanted to go back to the Great Lakes issue, if I might, and submit some information for the record, which we just got from the Environmental Protection Agency.

I apologize for not being able to put it into my testimony for the record this morning. But I have been very concerned about the amount of money that we are spending out of general revenues for cleanup at the U.S.-Mexican border. And for several years I have been trying to get information out of EPA and other governmental agencies to look at what we are spending on the U.S.-Canadian border, versus what we are spending at the U.S.-Mexican border; how we are funding it; who is paying for it.

I have been surprised at how difficult it is to get the information out of the administrations that have served in trying to figure this out. For example, we know that within EPA this year, they are going to take about \$164.1 million for NAFTA-related Mexican border improvements.

Government wide, there will be \$231 million, which is a \$13 million increase over last year. And the amount of money we will be spending as taxpayers to take care of border-related issues at the U.S.-Mexico border, I have spoken to the the new EPA Administrator as to how that compares to the U.S.-Canadian border. I have learned that we are taking money from general revenues to fund border cleanup, compared to the fact that in our region of the country where we have Superfund sites, that Superfund cleanup is being funded through a tax.

And yesterday I asked Administrator Browner, there is this Tijuana waste water project that has been going on for several years. We have appropriated \$124.2 million for a sewage treatment plant in Tijuana, Mexico. And I asked Ms. Browner, could you please explain to me how I can justify that to my mayor who is being fined by the EPA because he can't pay for all the infrastructure necessary, and all he gets is a loan program, not a grant program. Her answer was the reason we can take money from general revenues

is because the Tijuana river flows north, and therefore, the sewage ends up in the United States.

So my question to her was, and I am going to submit this in the form of a written question to her—the Niagara River flows north into Canada, but we don't fund a sewage treatment plant in Canada. So there seems to be continental inequity in the way that we fund cleanup as it relates to industrial development and population centers on the continent.

I would like to submit information to your subcommittee on the different ways in which we are funding this treatment at the border versus the Great Lakes Region, and to perhaps work with your subcommittee in a way to gain equity in terms of how we pay for this necessary cleanup. And I am going to be encouraging the EPA Administrator to look at the "polluter pays" concept as a way of trying to fund this cleanup and not take money from general revenues. And as an example of that, I use Dura Corporation, which left Toledo, Ohio, and which has left us with cleanup programs. And Dura has now located in northern Mexico and they are probably going to do the same thing down there.

But the company that did us harm will now move into your region and do the same thing.

I think, Mr. Chairman, this is a very important issue for your subcommittee to take I look at. And we would be happy from the appropriation side to provide you as much information as we can, and it has been very difficult to obtain.

So my last point is to try to gain continental equity in terms of how we pay for this cleanup. And right now I don't think that the system is fair to our region of the country.

Mr. APPLEGATE. Thank you very much Marcy.

I would like to have whatever information that you have, because I did not know that and \$124 million in the Tijuana Waste Water Treatment Facility—

[The information submitted by Ms. Kaptur follows:]

## NAFTA/MEXICO BORDER - TOTAL U.S. COMMITMENT

**Question:** What is the total U.S. government investment in FY 1994 supporting NAFTA environmental commitments?

**Answer:** The total U.S. government-wide request is approximately \$231 million, an increase of \$13 million over the 1993 enacted level. Seventy percent of this funding (or \$164.1 million) is contained in EPA's budget. This includes \$150.0 million for construction grants for wastewater and drinking water projects.

### Background:

Resources -	Estimates FY 1993	FY 1994	
EPA	<u>\$154.0</u> 32.5	<u>\$164.1</u> 90.0	Construction of Tijuana wastewater treatment (\$70M); projects in Nogales, AZ, Calixico, CA, other border projects.
	60.0	60.0	Colonias assistance
	11.5	10.1	Tech assistance, training, enforcement
	45.5		Sau Diego wastewater treatment
	4.5	4.0	Estimated salary, travel & expense dollars (based on Agency-wide averages)
USDA	<u>\$25.5</u> 25.0 0.5	<u>\$29.2</u> 25.7 3.5	FHA grants to Colonias (matched) Tech assistance, forest agreements
Interior	<u>\$0.6</u>	<u>\$0.9</u>	Cooperative ventures with Park Service, U.S. Fish and Wildlife Service
HHS	<u>\$1.6</u>	<u>\$1.6</u>	Enforcement/Inspection - FDA
State	<u>\$36.4</u> 26.1 5.4 4.9	<u>\$35.3</u> 26.1 5.5 3.7	On-going IBWC projects O&M Export/Import Bank credits/guarantee US AID technical assistance

### EPA's 1994 MEXICO BORDER/NAFTA ACTIVITIES

**Question:** What is EPA's 1994 AC&C request for its combined Mexico Border and NAFTA activities?

**Answer:** Our request AC&C request is \$10 million, which includes the Agency's combined Mexico Border program (without construction grants) and NAFTA activities.

**Background:**

o Resources:

- Breakout of the \$8.1 in AC&C Mexico Border funding by office is as follows:

OIA	\$ 4.3 M	Completion of first stage of IBEP, technical cooperation, (see attached page)
OAR	\$ 1.5 M	Enhanced air quality monitoring
OE	\$ 0.1 M	Training U.S. and Mexican Customs (most of OE's \$\$ in this area is in PRO)
<u>OSWER</u>	<u>\$ 2.2 M</u>	Monitor import/export of haz waste, haz waste technology transfer
<b>Mexico Border AC&amp;C Total:</b>	<b>\$ 8.1 M</b>	

- Breakout of the \$2.0 million in AC&C funding for NAFTA activities is as follows:

OE	\$500K	cooperative enforcement actions and training
OSWER	\$500K	import/export surveillance, hazardous waste technology transfer, etc.
OPPE	\$100K	environmental statistics and data exchange with Mexican Government
OAR	\$200K	alternative fuels and inspection and maintenance programs
OIA	\$250K	technical cooperation and assistance to develop environmental infrastructure
OW	\$200K	to hold a joint conference on industrial and municipal water pollution
<u>OPPTS</u>	<u>\$200K</u>	information exchange on pesticide residues on food exported to the U.S. from Mexico
<b>Total</b>	<b>\$1.95 million</b>	

OIA's \$4.3 million for Mexico Border Activities will provide the following:

- o Direct programmatic support to EPA's regions VI and IX for binational work group activities in the areas of air, water, hazardous waste, emergency response, and pollution prevention
- o Coordination of environmental education initiatives to Mexico as well as the newly established EPA-SEDESOL technical personnel exchange program
- o Development of an environment and energy technology clearinghouse for the U.S. Mexican border
- o Initiation of a study to examine strengthening state and local policy making and enforcement capacity in Mexico through decentralization

CA 42.6

NAFTA Request Broken Down by Office

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INTERNATIONAL NEWMARK AND WATER COMMISSION  
 SANITATION PROJECTS  
 (in thousands dollars)

	FY 1985	FY 1986	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1992	FY 1993	TOTAL BY PROJECT
1. Negules Int'l Wastewater Treatment Plant	200(1)	357	3,300	200	1,200(4)	3,000	296(5)	0	0	9,163
2. Tijuana Surface Measures	278(2)	91	175	0	0	0	0	0	0	539
3. Rio River	300	0	300(3)	0	0	0	0	0	0	600
4. Laredo Sanitation	0	0	0	0	325	7,175	5,400	6,600	750	20,250
5. Tijuana Sanitation	15	0	0	98	201	0	1,000	3,000	2,396	6,691(6)
6. Reimbursement to Negules	190	212	330	275	181	364	460	801	900	3,813
7. Negules O&M	0	6	5	0	0	0	0	321	403	735
8. Reimbursement to City of San Diego (Water Quality)	1,650	878	182	84	135	68	0	0	316	3,264
9. Lower Rio Grande Water Quality	61	58	23	25	48	46	25	15	15	316
10. Planning & Investigations (7)	195	208	208	476	358	327	329	428	380	2,800
TOTAL BY YEAR:	2,816	2,910	4,523	1,168	2,448	7,871	30,304	31,491	8,200	88,263

(ADP's Amistad Dam Project)

- (1) \$100 from ASP and \$100 Appropriation  
 (2) \$150 from ASP, \$100 EPA, and \$23 Tijuana FC  
 (3) \$380 from AUP  
 (4) \$1,200 from RGR  
 (5) \$285,346 Reimbursement earned  
 (6) Does not include City and EPA. \$24,355 Reimbursement earned  
 (7) 1/3 of actual obligations for Water Quality

RGR is Rio Grande Rectification Act \*

396529  
 AR:cb  
 03/10/93

\* The Rio Grande River changes direction. This legislation provides for the boundaries to stay the same as the river changes direction.

**U.S. Border Plan Funding for FY 1993**  
(millions of dollars)

	FY93 proposed	FY93 actual
<b>Border Wastewater Project Construction (EPA and IBWC<sup>1</sup>)</b>		
Tijuana Project <sup>2</sup>		
EPA	\$65	\$32.5
IBWC	\$4	\$4
Nogales	\$5	\$0
New River	\$10	\$0
<b>Colonias Assistance Initiative</b>		
EPA (grant program)	\$50	\$60
USDA, Rural Development Administration (drinking water hook-ups for colonias)	\$25	\$25
<b>Technical Assistance/Other Programs</b>		
EPA		
border programming and enforcement	\$9.1	\$9.1
San Diego wastewater project	\$40	\$45
Department of Health and Human Services <sup>3</sup> (public health projects and assessments)	\$2	\$2
Export-Import Bank (loan guarantees for Mexico to purchase U.S. pollution control equipment/services)	\$5	\$8
IBWC (other than wastewater construction) (\$26.1 million with Tijuana project)	\$25.5	\$22.1
<b>Total</b>	<b>\$240.6</b>	<b>\$207.7</b>

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<sup>1</sup>International Boundary and Water Commission, Department of State

<sup>2</sup> Section 510, Clean Water Act, authorized appropriations for a San Diego wastewater treatment plant to treat Tijuana sewage. EPA FY93 appropriation's bill caps the Tijuana facility at the current estimated EPA responsibility of \$239.4 million; appropriations through FY93 total \$124.2 million.

<sup>3</sup>The U.S. Public Health Service (PHS) initiated a study through the U.S.-Mexico Border Health Association to assess current health programs and resources along the border. The findings, issued in 1991, identified environmental health as one of the six main health concerns in the region. To ensure continuing attention to environmental health issues is the Border Plan, SEDESOL and EPA are initiating regular consultations with the PHS and others.

October 8, 1992

## Funding for Various CWA Programs

<u>Program</u>	<u>Authorization</u>	<u>Appropriation</u>	<u>Request</u>
<b>Chesapeake Bay, Sec. 117</b>			
FY1987	13.0	10.4	10.1
FY1988	13.0	11.4	10.4
FY1989	13.0	12.5	11.5
FY1990	13.0	12.7	12.0
FY1991	0	16.3	12.2
FY1992	0	18.1	16.3
FY1993	0	15.4	14.4
<b>Great Lakes, Sec. 118</b>			
FY1987	11.0	5.3	4.8
FY1988	11.0	11.0	4.9
FY1989	11.0	9.9	9.4
FY1990	11.0	13.0	11.4
FY1991	25.0 <sup>1</sup>	16.4	12.2
FY1992	0	13.6	13.0
FY1993	0	14.4 <sup>2</sup>	14.4
<b>Clean Lakes, Sec. 314</b>			
FY1986	30.0 <sup>3</sup>	4.8	0
FY1987	30.0	4.5	0
FY1988	30.0	0	0
FY1989	30.0	12.5 <sup>4</sup>	0
FY1990	30.0	8.7	2.0
FY1991	0	7.6	0
FY1992	0	7.0	0
FY1993	0	4.0	0
<b>Nonpoint Source Pollution Management Grants, Sec. 319</b>			
FY1988	70.0	0	0

<sup>1</sup> FY91 authorization increased from \$11 million to \$25 million in Great Lakes Critical Program Act of 1990, P.L. 101-596.

<sup>2</sup> Appropriation includes \$5 million in congressional add-ons for other Great Lakes activities, including \$2.5 million for GLNPO.

<sup>3</sup> Sec. 314(c) authorized \$30 million annually in competitive clean lakes grants. Sec. 314(d) also authorized: \$40 million, beginning after FY1986, to be available until expended, for demonstration clean lakes grants; and \$15 million, beginning after FY1986, to be available until expended, for developing methods to mitigate acid rain in lakes.

<sup>4</sup> \$12.5 million total consists of \$7.5 million for competitive grants under sec. 314(c) and \$5 million for demonstration grants under sec. 314(d).

## CRS-2

FY1989	100.0	0	0
FY1990	100.0	36.8	0
FY1991	130.0	48.5	15.0
FY1992	0	52.5	23.8
FY1993	0	50.0 <sup>6</sup>	26.0
National Estuary Program, Sec. 320 (part of Coastal Environmental Management)			
FY1987	12.0 <sup>6</sup>	11.4 <sup>7</sup>	7.9
FY1988	12.0	10.6	9.8
FY1989	12.0	15.6	15.2
FY1990	12.0	21.0	23.3
FY1991	12.0	35.5	34.9 <sup>8</sup>
FY1992	0	49.6	49.5
FY1993	0	48.9	47.9
State water quality management grants, Sec. 106			
FY1987	75.0	62.1	52.1
FY1988	75.0	60.1	62.1
FY1989	75.0	67.5	61.5
FY1990	75.0	71.9	83.1
FY1991	0	81.7	81.7
FY1992	0	81.7	81.7
FY1993	0	81.7	81.7
Wastewater Treatment Special Improvement Projects <sup>9</sup>			
Section 510, San Diego (Tijuana)			
FY1987	Such sums as neces.	0	0
FY1988		0	0
FY1989		20.0	0

<sup>6</sup> Funded out of the SRF/construction grants account, not abatement, control and compliance account.

<sup>6</sup> Section 320 authorization only.

<sup>7</sup> Appropriated amount and requested amount include *all* Coastal Environmental Management funds, of which NEP is one part. Amounts for section 320 grants cannot be determined. Other programs include Near Coastal Water strategies and sec. 301(h) program. NEP has also been supported by sec. 205(l) setasides amounting to \$7.8 million in FY87, \$7.6 million in FY88, \$4.7 million in FY89, and \$5.0 million in FY90.

<sup>8</sup> Only Coastal Environmental Management; sec. 205(l) setaside funds not available after FY1990.

<sup>9</sup> Section numbers refer to provisions in the Water Quality Act of 1987, P.L. 100-4, not the Clean Water Act as amended. Authorizations for sections 512, 513, and 515 begin in FY1987 and are available until expended.

## CRS-3

FY1990		7.0	0
FY1991		15.7	15.7
FY1992		49.0	100.0
FY1993		32.5 <sup>10</sup>	65.0
Section 512, Oakwood Beach/Red Hook			
FY1987	7.0	0	0
FY1988		0	0
FY1989		3.0	0
FY1990		0	0
FY1991		0	0
FY1992		0	0
Section 513, Boston Harbor			
FY1987	100.0	0	0
FY1988		0	0
FY1989		25.0	0
FY1990		20.0	0
FY1991		20.0	0
FY1992		100.0	100.0
FY1993		100.0	100.0
Section 515, Des Moines, Iowa			
FY1987	50.0	0	0
FY1988		0	0
FY1989		20.0	0
FY1990		19.0	0
FY1991		0	0
FY1992		0	0
Baltimore (no CWA authorization)			
FY1992		40.0	0.0
FY1993		40.0	40.0
Los Angeles (no CWA authorization)			
FY1992		55.0	55.0
FY1993		55.0	55.0
New York City (no CWA authorization)			
FY1992		70.0	70.0
FY1993		70.0	70.0
Rouge River/Wayne County MI (no CWA authorization)			
FY1992		49.0	0.0

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<sup>10</sup> FY1993 appropriation includes bill language capping the Tijuana facility at the current estimated EPA responsibility of \$239.4 million; appropriations through FY93 total \$124.2 million.

## CRS-4

FY1993	82.0	0.0
Seattle (no CWA authorization)		
FY1992	35.0	35.0
FY1993	35.0	35.0
San Diego (no CWA authorization)		
FY1992	40.0	40.0
FY1993	45.0	40.0
Atlanta (no CWA authorization)		
FY1993	7.0	0.0
Ocean County NJ (no CWA authorization)		
FY1993	19.0	0.0
Suwanee, FL (no CWA authorization)		
FY1993	2.5	0.0

Ms. KAPTUR. To date and last year our Appropriations Subcommittee capped the amount of money that we could spend at \$239.4 million.

Mr. APPELEGATE. We have yet to appropriate that?

Ms. KAPTUR. That is right. Out of general revenues.

Mr. APPELEGATE. That adds to the debt. I am sure Phil Gramm will have something to say about that. But that is very, very surprising.

What is the cost—did you get me a cost on the figure of the border cleanup as overall cost as compared to—well, of course, the Canadian?

Ms. KAPTUR. That is what we are trying to get, Mr. Chairman. I will try to supply some information for the record on that.

We got information yesterday from EPA so I have not had a chance to verify all of this, but the total U.S. Government-wide request for NAFTA environmental commitments this year, for the 1994 budget, is \$231 million, of which 70 percent or \$ 164.1 million is contained in EPA's budget.

Mr. APPELEGATE. Well, it seems to me that the countries of origin should be the one who is are totally responsible. And it seems to me that Mexico should be the one that is responsible of anything flowing into the United States. We should be for anything flowing into Canada.

Ms. KAPTUR. That is right.

Mr. APPELEGATE. But that apparently isn't the same. We have two different standards here. And I think it is very important that this be looked into and investigated. And the committee will do that.

I will be glad to work with you and I want to get all the information that I can on it.

Ms. KAPTUR. Thank you, Mr. Chairman.

Mr. APPELEGATE. And I would only say that I am very happy for the information that you have given to us to this point. And for your whole statement. Because it was very, very good. It was full of facts and figures.

I appreciate that, Marcy, very much. It was very well articulated.

Mr. Boehlert.

Mr. BOEHLERT. No questions.

Mr. APPELEGATE. Mr. Filner.

Mr. FILNER. Mr. Chairman, thank you.

And thank you, Marcy, for being here, and I have appreciated working with you in my few months here in Congress. I would hope as we move into solution of these problems, we don't end up pitting one part of the country against the other.

Coincidentally, I happen to represent the district in which the waste treatment plant is being built. It is not in Tijuana; it is in the United States in the City of San Diego. And let me say, it is something that I am glad you brought up, because we are going to have to deal with it.

Through the middle of my district, which is along the border between Mexico and the United States, 16 million gallons a day of raw sewage flow through my district.

I don't think any other district in the country can say that. So what do we do about it?

For 30 years we have been saying that it is Mexico's problem, they have to take care of it. I am proud to say as I Member of the San Diego City Council for the last five years, I finally was able to address the needs of my constituents, then and now, by figuring out a way to treat that sewage and get a commitment to work with Mexico to build a waste treatment plant on our side of the border, where the health and safety of at least 125,000 of my constituents is being endangered.

My constituents have malaria, encephalitis, asthma, other things. I would like all of you to come to my district and not only see the raw sewage, but smell it and live with it. It is something that we have to take care of in some way, and EPA and others have finally decided that with the growth of the City of Tijuana from 1 million to maybe 3 million now, although nobody knows for sure, they can't treat the sewage. And it is not the fact that the river flows north, it is the fact that sewage flows down hill, and we are at a lower level than the City of Tijuana in San Diego.

So as we look at the very real issues, the border areas and Great Lakes and, you know, I am working with you on the NAFTA situation, but I have very severe health and safety problems for well over 100,000 people, and no district in the country could say that they have this situation. Mexico simply cannot handle it technologically and financially.

In fact, by the way, you say who pays for what; the City of San Diego is now paying for treating of that sewage, which I engineered as a Member of the City Council, when the Federal Government has signed a pact to pay for it. There is no appropriation to pay for it. Soon the City of San Diego is going to turn off that treatment and endanger again the constituents that I have to serve.

So I appreciate your concern on the issue. But we have to find ways to deal with it without pitting ourselves one against the other, in working for your situation, but also those of us on the border that have been neglected for 30 years.

It has just escalated with the population growth of the City of Tijuana. It is a little bit more complicated—

Ms. KAPTUR. Will the gentleman yield?

I had the opportunity to visit your district and Tijuana about two years ago, and I couldn't believe what I saw. And I think what continues to trouble me is that those responsible for generating that waste are putting that burden on the citizens of San Diego. And really the citizens of the United States, because we are using general revenues to pay for this. And the "polluter pays" concept, which is something that we have embedded in law for funding other environmental cleanup efforts, really is not embedded in this proposal. And as the administration negotiates this environmental side agreement, whatever it is, this to me is absolutely an essential part of it, because it is too much of a burden and there is an inequity in the way that we are trying to finance these cleanups around the country. I doubt that this is the only place along the border where there is a problem.

Mr. FILNER. I agree with you that the so-called free trade agreement would just exacerbate that situation and make it just a disaster, more so than it is now.

I appreciate, Mr. Chairman, and Ms. Kaptur, I hope that we can all focus on these issues because people in all parts of the country have neglected them. And I will work with you for equity in financing but we have to pay attention to all of these areas.

Mr. APPLGATE. Thank you very much, Mr. Filner.

I certainly don't want to pit one part of the country against the other, but we have to find out why there is such a disparity here and find out why it has worked one way with one country and another way with another country, how that doesn't make sense. And the taxpayers, of course, have to continue to foot the bill, and right now they are not in much of a mood to be paying their tax dollars for other countries's benefits. As you can see, we are having difficulty with Russia and some of the others that want money.

Mr. Menendez has joined us. Do you have any questions?

Marcy, thank you very much.

I'm sorry. Mr. Horn.

Mr. HORN. I would like to say, I didn't hear all of your testimony, but I was impressed by the latter part that I did hear. I think you make an excellent point, as does my colleague from California.

I happen to support the North American Free Trade Agreement, but that doesn't mean that we want environmental pollution. And I certainly hope that we could constrain any future pollution. And as far as any past pollution go, if we could easily fine the polluters, fine. But what I would hate to see with this law is where most of the efforts and energy going to cleaning up the pollution are to lawyers arguing this out in court.

I think we ought to face up to solving the problem, and I would hope in this bill and every other bill that comes to Congress that we do exactly that and get rid of it, because as Congressman Filner says, this is a major public health program, no matter where it is.

Ms. KAPTUR. With will gentleman yield?

I am curious, where did the concept come in to penalize these mayors who don't have the money? They are trying to build these facilities as fast as they can. We had a heavy rainfall, we had discharge into our two rivers and into the lake, and so they got fined. They are building the combined sewer overflow facility. Our whole downtown is being dug out underneath. They weren't finished. I am missing something why these heavy fines could be levied on these cities that are trying.

Mr. HORN. I think the Chairman is the one that is going to have to answer that one.

Ms. KAPTUR. Well, I will have a private conversation with the Chairman.

Mr. APPLGATE. Who directed the question to me, to the Chair?

Anyway, I agree with you, Marcy, that here we are—I could name a couple of horror stories concerning EPA and fines and enforcement, and putting municipalities, on the other hand, a very strict mandate, and then say, If you don't do it, we are going to fine you so much per day. Sometimes the fines end up more than the worth of the whole village or community. And I can show you a couple of examples in my own area.

So I think we have to use some common sense in these approaches.

So, if there are no other questions, thank you very much, Marcy.

Ms. KAPTUR. Thank you.

Mr. APPLGATE. We are also privileged in having one of our newest members, Ed Pastor from Arizona. And he, of course being a supervisor of his county board of supervisors, is very familiar with some of the problems facing the counties. He serves on the Energy and Water Subcommittee of Appropriations, which is good, and a person that we need. Also, the committee which has jurisdiction over the civil programs of the Corps of Engineers. So that fits in with our work, too. And he has been very active in the environmental field.

We are looking forward to hearing what you have to say to us.

### TESTIMONY OF HON. ED PASTOR, A REPRESENTATIVE IN CONGRESS FROM ARIZONA

Mr. PASTOR. Good morning, Mr. Chairman. I want to thank you for the opportunity to speak to you today. I have prepared detailed written testimony which I would like to submit for the record with your permission.

My purpose this morning in appearing today is to seek the subcommittee's support to establish a Regional Water Quality Research Project in Pima County, Arizona, to deal with a major problem faced by 17 States through the arid West.

As you know, under the Clean Water Act, the EPA is charged with the responsibility of developing water quality criteria documents. These documents serve as guidance to the States, who are responsible for establishing specific water quality standards throughout the United States.

Over the years, the EPA has adopted water quality criteria based on scientific research primarily conducted for wet ecosystems. The EPA has used that same criteria for navigable waters located in arid States.

This policy is causing great problems throughout the arid West, where dischargers are facing the very real possibility of having to spend billions of dollars to construct new, or retrofit existing, wastewater treatment facilities to treat stormwater and effluent discharges. There is little indication that such expenditures will result in any net environmental benefit to the region.

The EPA criteria is intended to achieve fishable, swimmable water quality standards. While these standards make sense in wet ecosystems which are full of fish and other aquatic life, it makes absolutely no sense in arid ecosystems which do not support such species and where the majority of the navigable waters of the U.S. are merely dry riverbeds throughout most of the year.

Governmental and private entities throughout the West want to abide by the Act. That is, they want the EPA and the States to establish valid water-quality standards based on scientific data obtained from arid ecosystems. This would ensure that the EPA's water-quality criteria was established on the basis of the existing ecosystem.

Pima County authorities have developed a proposal to establish a Regional Water Quality Research project to conduct laboratory, ephemeral stream, and field research on the impact of effluent and storm-water discharges on the flora and fauna of arid ecosystems.

Pima County is requesting that the subcommittee authorize 5 million dollars in fiscal year 1994 to begin the project. The 5 million would be used to plan and design the facility, establish a biological laboratory, and to establish a water-quality monitoring program for storm water. Pima County is prepared to contribute up to half million dollars in matching funds to the project.

Mr. Chairman, as you noted, I am a Member of the Energy and Water Appropriation Subcommittee. Two days ago, the Secretary of the Interior, Bruce Babbitt, stated that this problem facing discharges in the arid West needs to be addressed within the context of the reauthorization of the Clean Water Act.

In closing, I ask that the subcommittee honor Pima County's request to proceed with the study and construction of the water-quality research project. The authors of the Clean Water Act recognized that water-quality criteria and water-quality standards should be established on the basis of accurate scientific research.

There is only one true way to achieve that degree of accuracy, and that is to conduct the research on the effected ecosystem.

Thank you very much, Mr. Chairman. I will be happy to respond to questions.

Mr. APPLGATE. Thank you very much, Ed. That is a very good statement.

What you are doing is you are making common sense and that means a great deal.

Mr. PASTOR. It is a major problem, because national standards are usually developed in the Midwest, the East Coast, or maybe the southeast part of the country. When you try to apply these standards to the arid West, they often don't make sense, and if cities and counties are required to meet these EPA standards, it is going to be very expensive.

So we just want to ensure that the data that these guidelines are being based on actually relates to the effected ecosystem.

Mr. APPLGATE. You say in order to implement this study it would take about 5 million?

Mr. PASTOR. Yes, sir, to begin construction of the facility and have the proper monitoring.

Mr. APPLGATE. I have an idea you will probably get that.

Mr. PASTOR. Thank you. I appreciate that.

Mr. APPLGATE. I don't know that we will authorize it, but you will probably get it.

Mr. PASTOR. We don't authorize in the Appropriations Committee, Mr. Chairman.

Mr. APPLGATE. Is that a fact? I appreciate you saying that. I will pass that on to Mr. Natcher.

Mr. Boehlert.

Mr. BOEHLERT. No questions.

Mr. APPLGATE. Mr. Horn.

Mr. Menendez.

Mr. PASTOR. Mr. Chairman, one more minute please.

Mr. APPLGATE. Sure.

Mr. PASTOR. This deals with a similar problem to that of San Diego's that I have in Nogales, Arizona. Several years back, an international waste treatment plant was constructed in Nogales, Arizona. At that time they felt that it was economical and efficient

to take the wastewater from Nogales-Sonora, Mexico and treat it at the plant in Arizona.

What has happened, due to national policy, is that the maquiladora population in Nogales, Sonora has increased tenfold. And so the problem that we have in Nogales, Arizona, is that the wastewater treatment plant that was built is now very near its capacity. The EPA has recommended funding for expansion of this plant.

I just want to make this comment so that when you look at some of the border situations, they exist because of national policy having a negative environmental impact on border communities.

Mr. APPLGATE. That is very true. Thank you for your input on that, Ed.

Next we have two of our very good colleagues with us, Frank Pallone of New Jersey and Eleanor Holmes Norton from Washington, D.C.

It is good to have you both before the committee.

Frank Pallone was elected to replace Jim Howard and is a former Member of this committee, but since has moved on to Energy and Commerce. And so we miss seeing you on the committee, anyway, Frank. And it is good to have you here and we are anxious to hear what you have to say.

#### TESTIMONY OF HON. FRANK PALLONE, A REPRESENTATIVE IN CONGRESS FROM NEW JERSEY

Mr. PALLONE. Thank you, Mr. Chairman. I appreciate being welcomed back and I really do feel like this committee is my home. I look around at the portraits that you have of Jim Howard and Bob Roe and Mr. Anderson, and it is nice to be back here.

I came because I really wanted to talk about the enforcement issue. And essentially, I would like to see during the reauthorization process very similar to the enforcement mechanisms that we put into State law in New Jersey in a bill that I responsored when I was in the State legislature, and use that as an example of what could be done on the Federal level.

I see that my colleague Mr. Menendez is here and I am sure he is familiar with the Clean Water Enforcement Act that was passed in the State legislature in New Jersey.

I have a written statement. I am going to summarize parts of it. If I could put the whole statement in the record, I would ask unanimous consent to do that.

Mr. APPLGATE. Without objection.

Mr. PALLONE. The Clean Water Act has not attained its goal because dischargers of toxic and other harmful substances, even when they have vastly exceeded permit levels, have not been sufficiently penalized for their acts. In far too many cases, they have not been penalized at all because the EPA has misused its wide discretion to set or not to set penalties for violations of the act.

With agonizing consistency, EPA has either ignored violations altogether or compromised on fines and penalties to such a degree that violators have been able to derive benefit from polluting our waterways. That is, industry has found that paying lenient fines for Clean Water violations is often cheaper than investing in proper pollution control equipment and complying with the law. And my

feeling, Mr. Chairman, is that without a mandate for strong enforcement, essentially industry often finds that it pays to pollute.

What I am saying today is in part based on the report that was done by the General Accounting Office which confirmed this. They said that enforcement of our Nation's water quality laws continued to be weak and sporadic. Despite serious and longstanding violations, most enforcement actions are mild slaps on the wrist rather than formal actions such as administrative orders or fines and penalties. Further, even in the relatively few case where penalties have been assessed, they are significantly reduced or dropped without adequate documentation.

A similar statement in May 1989 by the EPA Inspector General. I am not going to read that, but I believe that inadequate enforcement of the Clean Water Act undermines our advances in improving water quality. We must do better and unless we create incentives by enacting mandatory minimum penalties, removing the economic incentive for industries to remain out of compliance, adding stronger reporting and inspection provisions and empowering citizen actions or citizen suits, we will continue on this downward trend.

Basically those four points are the essence of H.R. 3429, the Clean Water Enforcement and Compliance Improvement Act. It was introduced last year with a number of cosponsors and will be introduced again in the next few weeks with a slightly more expanded version in order to implement this.

It is modeled on the New Jersey law that was passed in 1991, and New Jersey basically found as a result of the law that there is now an economic benefit in pollution prevention. That is what we are trying to create that actually polluters will feel that there is a benefit to preventing pollution. And since that time the state has heralded its success in its annual review.

I am saying that not only do we have a model on the state level, but it has been in effect and there are reports to see how it has worked out. We are not just giving you something that has not had a test run.

In March the state reported that the 1992 data concerning inspections showed a trend towards compliance by more facilities. The number of facilities which inspections found unacceptable decreased from 792 in 1991 to 505 in 1992.

In 1992, permit holders moved to more substantial compliance with the Discharge Monitoring Requirements. The number of violations for failure to submit discharge monitoring decreased from 59 to 38 in 1992. And basically, these self-reporting requirements are at the heart of the state legislation and the proposed Federal legislation. In other words, in the past basically every six months they would average their figures where now they are required to report on a monthly basis the violations. And this has led to more frequent inspections, to quicker action, to preventive actions that are taken before more serious violations occur.

The state has increased permit actions by 140 percent They have eliminated duplicative permits, issued new permits, renewed, modified or terminated permits. These up-to-date permits will undoubtedly yield great environmental benefits.

To get to the heart of the legislation, it basically requires mandatory minimum penalties of \$1000 per violation per day for serious violators. For a significant noncompliance, a mandatory minimum fine of \$5000 per violation per day would be set. And the EPA would no longer have a discretion to not calculate economic benefits.

We are trying to eliminate the discretion, Mr. Chairman, and we are basically saying that they have to calculate economic benefit in setting the standards in all this. They cannot reduce punitive damages by more than 25 percent.

I don't have to schedule you how much money Congress has invested in pollution prevention and the billions of dollars in upgrading water treatment facilities over years, but because industrial discharges to publicly owned treatment works are largely unregulated, industries have been granted a license to pollute as long as their discharges pass through a POTW.

So we are also changing in this law, and I would like to see it changed in the reauthorization, that the monitoring reporting requirements not be less stringent in POTWs, so all facilities discharging to ground waters, surface waters, or treatment works must submit discharge monitoring reports monthly.

You understand what I am talking about? Industries use the fact that they are sending their wastewater into a POTW as an excuse for less reporting requirement.

I wanted to talk about a few more things and then I will close; one is citizen suits. The Department of Justice has credited citizen groups for their valuable public service in seeking compliance with the Clean Water Act. And I specifically mention the New Jersey Public Interest Research Group which over a four-year period recovered nearly \$6 million. Nationwide, \$9.7 million in penalties and interest has accumulated because of citizen suits.

But there has been a problem and my bill seeks to remove the obstacles that are contrary, I believe, to congressional intent. Congress has provided that any citizen may commence a civil action against any person alleged to have been in violation of the act, but that was undermined by the Supreme Court in Chesapeake Bay Foundation vs. Gwaltney of Smithfield, Ltd., I believe they undermined this provision which they said this meant citizens cannot sue for wholly past violations.

This has had a chilling result. Industry, rather than coming into compliance, waits until citizens file a notice of intent, and then if that violation is cured within the 60-day period, it is considered, a past violation they can't bring the citizen suit.

I am asking that a change be made in that. We made a similar change last session with the Clean Air Act. I have also asked that we adopt the EPA regulation clarifying that state enforcement actions may not bar the imposition of Federal judicial penalties. And we are seeking to clear the definition of citizen standing and include a finding and definition which seeks to end any preemptive barring of citizen access.

As I said, I think that citizens should have access to as much public information as possible. That is what citizen involvement is all about. If they don't have the information, they can't bring citizen suits. So we have included language in the proposal to require

posting the waterways which do not meet standards or in which fish and shell fish consumption is banned.

What I have done at the end of my testimony is to summarize the key components of the legislation. I am not going to run through that again because I have highlighted what I think is most important. But I am concerned about one thing.

I saw some of the Appropriations people were here previously. In the proposed budget there are significant cuts which I think will affect enforcement. So I believe that in part because there may be less money for enforcement, that that means that this type of legislation which will allow for better enforcement in ways that doesn't necessarily imply additional funds is that much more important. And that is why I mention that about the budget.

In conclusion, essentially, the reasoning of this legislation is pretty simple. If it becomes plain that violators will be held accountable and that it is no longer safe to assume the EPA will either ignore violation or assess tacit penalties, the industry will begin to see an economic benefit in pollution prevention.

That is the only way that we will realize the goal of the Clean Water Act and basically the efforts that this committee has expended on the Clean Water Act for the last 30 years.

Thank you, Mr. Chairman.

Mr. APPELGATE. Thank you very much, Frank.

A couple of things. You, of course, basically are interested in strong enforcement, and I can understand the problems that you have. You want to set a minimum, which is okay, but you also want to extend or expand the maximum fine.

And Marcy Kaptur was here a while ago just saying that the daily fines are far too great and too great a burden for small communities to be able to withstand, and they are hurting. She was I think very articulate in drawing some comparisons to other things throughout the country.

But you also, in trying to make this a little bit more stringent too, you are talking about—and this is something I think that may—as a matter of fact, Mrs. Holmes Norton may want to listen in on this, too—and that is to include fines for anticipated violations. And I am not sure how that is going to sell and if it is consistent with due process or any other aspect of criminal law, and there are any examples of penalties for anticipated violations.

Mr. PALLONE. You know, I actually went to dinner last night with some individuals who brought that up to me. And I frankly didn't understand, you know, why they assumed that to be the case in the bill. I don't know if I could—I mean, it is interesting because in the last few days, I guess perhaps in anticipation of testimony of this bill being reintroduced, that concept has surfaced.

But I can't answer you Mr. Chairman other than to get back and see why, you know, it is being alleged that we are going to be penalizing people for a violation that hasn't occurred.

Mr. APPELGATE. Well, it is interesting, and I would like to hear from you.

Mr. PALLONE. Absolutely, I will be talking with you.

Mr. APPELGATE. I thought when you said that you went out to dinner last night, you were anticipating that they would pick up the bill, and they didn't. And if there are any other examples that

you might be able to supply to us, I would be interested in seeing them.

Mr. PALLONE. We will get back to you.

Mr. APPLGATE. I have a little bit of a problem on that, but I would like to hear what you have to say on that.

Mr. Menendez.

Mr. MENENDEZ. I don't have any questions. But I do want to commend my colleague from New Jersey, who represents one of the gems of New Jersey, the New Jersey shore, which is not only a natural resource for New Jersey, but also a tremendous economic resource. So when Frank Pallone talks of clean water, it is certainly of concern for all of New Jersey, and of course the standards that we want to achieve are penitentiary for the Nation.

And so I commend you for your constant vigilance and stalwart ideas to make sure that we accomplish the goals that we want to be working on this problem.

Mr. PALLONE. Thank you, and I would like to say that in New Jersey, the problems of clean water have never been perceived by the members of the state legislature as being confined to the shore area. And when we were working to eliminate the ocean disposal of sewage and sludge, some other basically long-term efforts to eliminate ocean pollution, that we had tremendous support from then Senator, and I guess before that Assemblyman, Menendez and a number of people from the North Jersey area, and I appreciate that.

Mr. APPLGATE. Mr. Nadler.

Mr. NADLER. Thank you, Mr. Chairman.

Let me also commend the gentleman from New Jersey, Mr. Pallone for his testimony and his initiative in this bill. And let me say that I am also very concerned personally about the clean water in New York and also in New Jersey, since I spent eight or nine years growing up in Ocean County, in Jackson Township. I don't know if that is Mr. Pallone's district.

Mr. PALLONE. It is not now, but I used to represent Jackson County.

Mr. NADLER. You talk about empowering citizen lawsuits by eliminating some of the barriers currently. Does your bill include or have you given thought to awarding court costs and lawyers fees to successful citizen plaintiffs?

Mr. PALLONE. I believe we do that. In fact, one of the things that I didn't mention, but—I at least didn't mention in my oral statement—I think it is in the written—but it is certainly in the bill, is that in the past a lot of the money—money has been awarded as a result of citizen action suits and a lot of times it is used for pollution prevention because those citizen organizations will then donate it for that purpose.

One of the things that we put in the bill is that we would actually authorize the courts to do that, to actually award the damages, so to speak, toward pollution preventions in various ways.

Mr. NADLER. Thank you.

And secondly, you talk about point sources of pollution discharged through secondary treatment plant, in other words, where you simply discharge some pollutant, chemical, whatever, and it gets filtered through a pollution treatment plant.

We have a slightly different problem that I am thinking of and I want to ask whether your bill addresses this. That is, you have areas where the treatment plants, especially in the Hudson River in New York, for example, are way over capacity. That is to say that the sewage, raw sewage, not particular pollutants, is too much for the existing plants, and whenever it rains, it goes over.

I forget the technical term, but it goes over the banks or whatever and raw sewage spills into the Hudson, and yet we have very large-scale developments coming down the pike that will increase the overcapacity of some of these treatment plants from 130 percent to 140 percent.

What can we do? Does your bill address this? What do you think we can do to make sure that either in limiting new development or anything else, to make sure that we are simply not treating the water at one end, but overloading our treatment facilities at the end so that we don't get any net gain?

Mr. PALLONE. Well, the bill doesn't address that, but if I could talk about it briefly, in New Jersey, and I assume in New York as well, historically, if a new subdivision went in and there wasn't the capacity to treat the sewage that would come out of it, they would simply have bans or moratoriums on new construction, and that was very true in Ocean County as well as Monmouth County in the 1980s and before that. I think it is true, but that is one way of dealing with it.

On the other end—and obviously this is what your committee is looking into—you know, obviously providing more funds to increase capacity and dealing with ways of separating storm drain systems from sewage treatment systems, and if you can't afford the situation, looking at devices to control the storm water either through holding tanks or screening devices, less expensive things than separation, but I am sure you are talking about all of those things.

Mr. NADLER. Would you think it advisable to require in Federal law bans or moratoriums or that the State have a choice of either putting into place increased treatment facilities or some other technical means that you just spoke of, or banning or having moratorium of new construction and forcing that on the State that doesn't have the political will to do any of those?

Mr. PALLONE. Yes, I have no problem with that kind of a Federal law. I am not sure that that isn't already partially the case. It may be that New Jersey enforces those bans only through their own State action or it may be because of some Federal mandate that already exists.

If there are no Federal mandates, I don't have a problem with it. But it is important. And I am sure you share the same view that, we do more on the Federal level.

This committee has authorized levels of funding for loans and obviously I would like to see grants, particularly to the hard-pressed areas, at higher level than has been appropriated. But there again it is a money problem.

Part of the President's stimulus package is to provide more funding for that and you see the problems that we have getting that through. In the absence of having that money available, you may have to continue to have some of these moratoriums.

Mr. NADLER. Thank you.

Mr. APPELATE. Mr. Horn.

Mr. HORN. Thank you, Mr. Chairman.

Legal fees and processes were mentioned. I have got two questions. One, does your bill provide any provision that the loser who brings the claim, if the loser is the one who brings the claim, would have to pay the legal fees of the victor?

Mr. PALLONE. In citizen action suits, no, it does not.

Mr. HORN. As you know, there are a lot of nuisance suits, large, public and private. And there are suits that are often groundless, but they assume that there should be a way you have just to get them off your back as a nuisance.

Mr. PALLONE. I guess I understand what you are saying, but my fear—and I don't know how we would work this out ultimately, because I understand your concern—but my fear would be that particularly knowing some of the citizen groups in my part of New Jersey that are involved in bringing these suits, they are often not only grassroots but underfunded and volunteer and that type of thing.

I would be afraid to create too much of an onerous burden that would discourage the suits, but maybe there is some way to come to a happy medium on this. I understand your concerns.

Mr. HORN. Well, an administrative law process that deals with the problem rather than just having counsel get rich on the process or having punitive damages that really don't apply, but someone feels that there is a deep pocket at the end of the line.

And on your second-to-the-last page, I am curious, what are the different criteria that move one from a serious violator at \$1000 a day to a significant noncomplier at \$5000 a day? How do you work that formula?

Mr. PALLONE. Those definitions are in the existing statute and maybe I could get some help in how they are defined. But they are not new concepts. They are definitions that exist within the current law.

Mr. HORN. Are you just changing the dollar amount?

Mr. PALLONE. The definitions and those terms are terms of art that exist in the current law.

Mr. HORN. Well, we can look that up. I was curious as to what the change was.

Mr. PALLONE. No, not in the definition of terms of art.

Mr. APPELATE. Thank you very much, Mr. Horn.

Frank, thank you very much for appearing before the committee.

Mr. PALLONE. Thank you.

Mr. APPELATE. We will be working with you.

Mr. PALLONE. Thank you, Mr. Chairman and Members of the committee.

Mr. APPELATE. We are also honored to have a very distinguished Member of our committee—and I will get this right, Eleanor. You know, I am getting Norton and Holmes mixed up here, but I will get it right and we will just say Representative Norton.

She has been an outspoken protector of the Anacostia River and she is one of the rare Members of the Congress who chairs two subcommittees, the Post Office and Civil Service Subcommittee on Compensation and Employee Benefits, and the Subcommittee on

Judiciary and Education of the District of Columbia committee. That is quite a distinction. I am impressed with that.

And she very much interested in environmental concerns and not only just in her own District, but also throughout the Nation. And it is good to have you before the committee.

**TESTIMONY OF HON. ELEANOR HOLMES NORTON, A  
DELEGATE IN CONGRESS FROM THE DISTRICT OF COLUMBIA**

Ms. NORTON. Thank you very much, Mr. Chairman.

Chairman Applegate and Members of the subcommittee, I very much appreciate the opportunity to testify today and I will testify briefly and ask that my longer remarks be incorporated into the record.

Mr. APPLEGATE. Without objection, so ordered.

Ms. NORTON. I am pleased to be a Member of this subcommittee and proud of the work that it is doing under our able Chair.

Just yesterday, American Rivers named a river within sight of the capital as the most endangered river in urban America. The Anacostia River ranked high, on what I call the Dirty 10; the 10 most endangered rivers in America. The Anacostia was number 4.

Today I want to propose that the Clean Water Act reauthorization include an urban watershed restoration program similar to the national estuary program which protects smaller tributaries of larger waterways. Given the size and importance of these watersheds, they need and deserve new and separate funding.

Minimally, jurisdictions should have the option of using existing funds for urban watershed restoration. If the new program were to become a part of an existing program under the act such as section 319 nonpoint source program, then every effort should be made to increase those funds.

The watersheds that would be covered are parts of the great cities of America. In a very real sense, these working rivers built America. They have been central to industry and commerce, they have provided drinking water, food and recreation. We have mightily used these rivers and nearly used them up.

I believe that it should be unthinkable to reauthorize the Clean Water Act today without including a more comprehensive approach to the restoration of the great urban rivers. The rivers I refer to deserve a lot of credit for building a strong industrial America. Among them were the Detroit River, the L.A. River, the Flat River in Denver, the Chicago River, and the Hudson River.

The experience that leads to my interest in city rivers is, of course, the Anacostia. In 1991, former Congressman Henry Nowak, who was Chair of this subcommittee then, and Congressman Robert Petri, who was Ranking Member, held a field hearing about the Anacostia in a Washington, D.C. neighborhood bordering the river. That hearing documented extraordinarily strong regional, local, citizen, and organizational activity and support.

For years the Anacostia has attracted successful efforts and cooperation from elected leaders, regional officials and organizations, and from this region's devoted and untiring environmentalists. This rejuvenation activity needs and deserves an appropriate framework under the Clean Water Act if it is to become even more effective.

The survival of city rivers is, indeed, a miracle of nature when we consider the enemies that plunder their shores everyday. The Anacostia is typical, but I shall not run down the terrible problems that plague that river. I leave it to the record to include.

Rivers like the Anacostia cannot fully recover, even with the admirable and energetic mix of approaches that surround restoration today. The starting point, I believe, in this year of reauthorization is to focus on these rivers through special urban watershed restoration programs and not simply through a series of often unconnected grants to State jurisdictions and organizations.

An urban watershed program would have major roles for the Federal Government, the States, and local governmental and citizen groups. Urban watersheds of national significance could be nominated by governors with the concurrence of urban watershed citizen advisory councils and local officials.

EPA would oversee the program, coordinate with other agencies and provide technical and financial assistance to the urban watershed projects. States would administer the Federal grant money, provide additional State grant money, help to train citizens to do water quality monitoring and other components and commit to watershed restoration requirements.

Local governments and local citizen groups would work as equal partners in the restoration efforts to design the individual watershed restoration projects and hire and train innercity youth and others on the ground to conduct the restoration projects and public education activities.

Central to my proposal is citizen involvement. Citizen river restoration efforts already under way along the Anacostia are proof positive that just as all political systems are local, all successful river restoration efforts are also local. It is the people who live near the river who care most deeply and personally about their waterways. All they need are the tools.

Just as the FBI has its 10-most-wanted list, my hometown river in this Capital City of our Nation has gotten the dubious honor of the most endangered urban river in America. However, the Anacostia is but a proxy for all of America's endangered urban rivers. It runs along the banks of the showcase Nation's capital, just far enough from the tourist attractions to be forgotten.

The Potomac became a national embarrassment and got a special cleaning with Clean Water Act funds beginning 20 years ago. The Anacostia, the people's river, the river of the neighborhoods, was ignored, as have the other urban rivers of America.

This year when we are reauthorizing the Clean Water Act, the working rivers of our major metropolitan areas deserve attention. This is the year to give citizens and State and local governments the tools to reclaim the city rivers that have worked on overtime for our country.

Thank you very much.

Mr. APPLEGATE. Thank you very much, Eleanor.

I think you have said pretty much what needed to be said in your statement and you have enumerated it, I think, very well. And we have some problems throughout the States as well as the District of Columbia. The question is how we are going to be able

to address them and in an equitable fashion be able to pay for them all. That seems to be where we are.

We are hoping and we will look forward to working with you as time goes on to be able to include a better program for the District and for doing what it is that you feel is necessary to help to take care of the Anacostia and some of the other problems.

And so I certainly thank you for your very well prepared statement.

Mr. Horn.

Mr. HORN. I just want to thank Delegate Norton for the testimony. We ought to make sure this city and all its parts are a beautiful example for the rest of America. So I thank you for coming.

Having said that, Mr. Chairman, I wonder, with reference to Mr. Pallone's testimony, I am informed by Minority counsel that it is the regulations that really contain the definitions that we were searching for.

Mr. APPELEGATE. Mr. Menendez.

Mr. MENENDEZ. No questions.

Mr. APPELEGATE. Mr. Filner. Nothing? Okay.

You got off easy. You did so well on your statement.

Ms. NORTON. I hope that means that we are going to get an urban watershed project.

Mr. APPELEGATE. Now we will have the Florida delegation. And with us we have Clay Shaw, Ileana Ros-Lehtinen, and Peter Deutsch. Good to see you. Mr. Hastings was here.

**TESTIMONY OF HON. E. CLAY SHAW, JR., A REPRESENTATIVE IN CONGRESS FROM FLORIDA; HON. ILEANA ROS-LEHTINEN, A REPRESENTATIVE IN CONGRESS FROM FLORIDA; AND HON. PETER DEUTSCH, A REPRESENTATIVE IN CONGRESS FROM FLORIDA**

Mr. SHAW. Mr. Hastings was here and I know that the hearings are running longer that you had anticipated. He had a conflict and had to leave, but he has a statement that he asked be put in the record.

Mr. APPELEGATE. All of your full statements will be made a part of the record.

I saw Dante Fascell. I thought maybe he was going to fill in. Did you want to fill in?

We are privileged to have this distinguished group from Florida, and Clay Shaw has been one of the leading Republicans in fighting the scourge of drugs and drug-related crime, and a very strong Member of the Ways and Means Committee, which, we know, is extremely important and is very interested in the restoration of the Florida Bay as well as the Miami River.

Mr. SHAW. Thank you, Mr. Chairman.

I would like to point out that I was also a former Member of this full committee as well as at one time this subcommittee, of which I have very fond memories.

I would like to talk to you for a few moments, and I will ask that my full statement be put into the record so that I won't extend your labors by having to listen to a whole statement. But I would like to talk to you for a few minutes about another form of crime

that has been committed, although albeit a crime that no one really recognized was going on through the years.

As I look around this committee room and look at the great public works projects that this committee has authorized over the years, I think that the time has come now that we must look at what we have accomplished, what is good and what is bad, and try to correct what we have destroyed.

South Florida at this moment is in a world of trouble. There is no question about it, and that trouble starts all the way up around Disneyworld, comes around Kissimmee River and into Lake Okeechobee and into the Sea of Grass, which is known as it is Everglades. The majority of that Sea of Grass is owned by the Federal Government as Everglades National Park. It comes down and dumps into the Florida Bay.

I have had handed out to you, Mr. Chairman, maps showing exactly the location of the Florida Bay. Florida Bay is one of the great natural resources that we have in South Florida. It is the very nursery from which most of our fish life and shell life comes, and it is in trouble, as is the rest of the Everglades.

The Everglades is being overrun by melaleuca, by development, by drainage, by all these things that have been done over the years. These are all well-meaning projects that have been allowed by the private sector as well as projects that have been conducted by governmental bodies over the last 75 or 100 years.

We now are finding that what we thought was an indestructible environment in Florida is not indestructible. It is in big trouble at this particular time, and we are seeing that.

What I would like to address at this particular point is the trouble that is down at very south end of Florida Bay. This lies in Peter Deutsch's district but it is something that the entire Florida delegation has expressed its concern about by cosponsoring as original cosponsors the Save the Florida Bay Act of 1993; thus, showing our joint concern about the future of this natural resource.

To just tick off the problems that we are seeing in this dying body of water; 55 square miles of seagrass in Florida have died since 1987 and this is mostly within the park itself. The number of pink shrimp in the Florida Bay is at a 30-year low. The mangroves and sponges are dying off at an alarming rate. The water is saline and warm, providing an unhealthy habitat for juvenile shrimp, lobster, fish and all the wildlife below the sea.

The nearby coral reefs, which are the only living coral reefs in this country, are endangered and we are seeing the collapse of that most important reef. The most massive algae bloom ever found was recorded last year in the Florida Bay and it stills exists today.

Jobs are being lost as a result of the deteriorating Florida Bay as well as the quality of life that we are seeing. Now, we have, what we are seeing is a warning sign. The bay is not dead, but it is dying and desperately needs attention.

I believe this subcommittee should really put on the top of its list, to go in and take an audit of what is out there, what has happened, what can be done and where we have to try to correct the situation.

We have a very large Federal interest because of the fact of the map that I have handed out to you shows that the Federal Govern-

ment is by far the largest landowner. In fact most of the real estate on the map that is before you is owned by the Federal Government.

It is a wonderful, wonderful natural resource which we must turn our attention to. This particular bill, as well as the project and concern there, has also been addressed by the Governor. His letter of concern and support for this important piece of legislation is part of my statement, which I have previously submitted for the record.

We will be, in the next few weeks, submitting recommendations to you, Mr. Chairman, and to this committee, as to how this should be, in our opinion, addressed in the legislation that you are considering. What our intention is today is to focus the subcommittee's attention on this most important natural resource and the tremendous danger that it is in.

I don't know how the Chair would proceed. I would answer questions, or if you prefer, perhaps it would be better to yield to my colleagues so that they will have a chance to testify.

Mr. APPELEGATE. If there are any time constraints, we of course do them individually as the Members would desire, but you are here as we group and we could just listen to the testimony from the other two and then just ask some questions.

So we will go to Congresswoman Ileana Ros-Lehtinen.

Ms. ROS-LEHTINEN. Thank you, Mr. Chairman.

I am pleased to have this opportunity to testify before this subcommittee in support of the Save the Florida Bay Act of 1993 to protect our Florida Bay, a body of water which is of critical importance to the entire State of Florida. And it is of importance State-wide because it affects the environmental health of our Everglades.

The Florida Bay is one of our most essential natural resources. I urge you to support this because the immediate action is necessary to decrease the rapid deterioration of the Bay. As we speak, there is massive seagrass die-off and the abundant growth of algae threaten the economic character of the commercial and recreational fisheries in the area.

Additionally, our country's only living coral reef system located in the Florida Keys is threatened by this declining water quality. Lack of fresh water drainage and disturbance of the natural flow of water in the Florida Bay have caused many environmental problems.

I request that this subcommittee acknowledge the need to save our Florida Bay and consider Save the Florida Bay Act of 1993 as an essential provision to the Clean Water Act.

I look forward to working with my colleagues and the subcommittee to save this indispensable natural resource, and I congratulate Congressman Vento who has worked so hard on a problem that is not in his district.

Thank you.

Mr. APPELEGATE. Next, Representative Deutsch.

Mr. DEUTSCH. Thank you, Mr. Chairman.

It is a pleasure to be here with my distinguished colleagues, particularly Congressman Fascell, who is present today. As we talk about South Florida and Florida Bay itself, that area of the country is almost a living testament to his success and involvement. The fact that Florida Bay itself is owned by the Federal Government,

and is part of the National Park System, is a tribute to his 38 years in the U.S. Congress.

The destruction of Florida Bay is an interesting problem that we are facing. Your first questions may be why today and why not three years ago and why not four years ago? And why all the sudden has it reached this crisis magnitude?

In fact, there is an ecological explanation in terms of seagrass and types of seagrass which have taken over as a result of the salinity change. Because fresh water is not reaching the Bay, the water becomes hypersaline, causing seagrass to die off.

There is a crisis in one of America's great natural resources right now. I am meeting with Secretary Babbitt about Florida Bay this afternoon. This crisis is on his agenda, and is on the President's agenda.

We have a treasure in America that is dying, and its death has occurred exponentially over the last year and a half to two years. We have the opportunity and, the responsibility, to try to do something to save Florida Bay.

The resources of the Federal Government have solved much more serious problems than what exists in Florida Bay at this time. I think we are a united delegation from Florida and hopefully will be united as a country in addressing the issues to save Florida Bay.

Mr. APPELEGATE. I have statements here from Representatives Alcee L. Hastings, and Harry Johnston of Florida, for inclusion in the record.

[Statements referred to follow:]

ALCEE L. HASTINGS  
23D DISTRICT, FLORIDA

**Congress of the United States**  
**House of Representatives**  
**Washington, DC 20515-0923**

STATEMENT OF THE HONORABLE ALCEE L. HASTINGS  
of Florida

Before the  
HOUSE PUBLIC WORKS AND TRANSPORTATION  
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT

GOOD MORNING, MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE. I APPRECIATE HAVING THE OPPORTUNITY TO TESTIFY BEFORE THE SUBCOMMITTEE ON BEHALF OF THE "SAVE THE BAY ACT OF 1993".

THIS BILL IS DESIGNED TO RESTORE THE FLORIDA BAY, ONE OF THE MOST PRECIOUS HABITATS ALONG THE EAST COAST. CONGRESSMAN SHAW'S LEGISLATION AMENDS THE FEDERAL WATER POLLUTION CONTROL ACT TO PLACE FLORIDA BAY ON THE EPA NATIONAL ESTUARY PROGRAM'S PRIORITY LIST. FURTHERMORE, THIS BILL ESTABLISHES A COMMITTEE TO OVERSEE THE FACILITATION OF FLORIDA BAY RESTORATION AS WELL AS ENLIST FLORIDA BAY AS PART OF THE COASTAL AMERICA PROGRAM. THIS PROJECT, WHICH HAS ALREADY BEEN AUTHORIZED, REQUIRES APPROPRIATIONS IN THE AMOUNT OF \$3,000,000 FOR FISCAL YEAR 1994.

THE FLORIDA BAY HAS BEEN CRIPPLED BY MAN AND IS CURRENTLY IN GREAT PERIL. THE POPULATION OF MARINE LIFE HAS DECLINED SIGNIFICANTLY, MOST NOTABLY SEA-GRASSES, SPONGES, AND MANGROVES. IN ADDITION, A HUGE ALGAE BLOOM IS SPREADING ACROSS THE SURFACE OF THE FLORIDA BAY. THE SCIENTIFIC COMMUNITY HAS CONCLUDED THAT

THE PROBLEM IS DUE TO A SHORTAGE OF FRESH WATER FROM THE EVERGLADES. OTHERS SPECULATE THAT THE MAIN PROBLEM IS WATER QUALITY.

A TEMPORARY PUMP WAS INSTALLED IN 1992 TO INCREASE ADDITIONAL WATER, BUT HAS BEEN INEFFECTIVE IN SERVING MANY WATER-STARVED AREAS. WITHOUT REGULAR FRESHWATER INFUSIONS, FLORIDA BAY'S WATERS - WHICH ARE NORMALLY LESS SALTIER THAN THE OCEAN - BECOME WARMER AND SALTIER THAN SEA WATER. FURTHERMORE, SCIENTISTS ARE CONVINCED THAT THE BAY WATERS FLOW THROUGH THE FLORIDA KEYS AND OUT ONTO THE CORAL REEF. THE EXTREMELY SALTY BAY WATER WILL HAVE AN EFFECT OF THREATENING THIS NATION'S ONLY LIVING CORAL REEF SYSTEM IN THE FLORIDA KEYS. THE FLORIDA BAY WHICH WAS ONCE A MARINE MEADOW WITH CRYSTAL CLEAR WATERS AND ABUNDANT FISH IS NOW RAPIDLY BECOMING A "DEAD ZONE" AVOIDED BY FISHERMAN. CONDITIONS IN THE BAY ARE NOT CONDUCIVE TO THE SURVIVAL OF YOUNG SHRIMP, LOBSTER, AND FISH. THIS HAS HAD A CHILLING EFFECT ON THE STATE'S LARGEST COMMERCIAL AND RECREATIONAL FISHERIES, AN IMPORTANT MEANS TO INSURING THE REGION'S ECONOMIC STABILITY.

WE MUST IMPROVE AND PROTECT THIS VITAL ECOSYSTEM WHICH SERVES AS A CRITICAL HABITAT FOR PLANT AND ANIMAL SPECIES. AS THE BAY IS GRADUALLY IMPROVED, IT CAN RETURN TO A STATE WHICH MAINTAINS AN EXTRAORDINARY VARIETY OF ORGANISMS, PLANT LIFE, AND

FISHERIES. THE FLORIDA BAY IS A PRECIOUS COMMODITY AND A VITAL  
NATURAL RESOURCE TO THE STATE OF FLORIDA.

I THANK THE COMMITTEE FOR YOUR TIME AND CONSIDERATION.

House Subcommittee on Water Resources  
Testimony of Rep. Harry Johnston  
Save the Florida Bay Act of 1993  
April 21, 1993

Mr. Chairman, thank you for this opportunity to share with you and the members of the Subcommittee my views concerning the environmental crisis in Florida Bay. I regret that I am unable to provide my views in person, but hope the following comments will encourage your support for the "Save the Florida Bay Act of 1993."

The critical state of the Bay is reflected by increasing public insistence to act immediately. In recent years, we have witnessed dramatic biological changes: the die-off of seagrass meadows, mangrove habitats, sponges, shellfish, and other marine life. Acres of algae mats have provided an alarming visual confirmation of the Bay's distress.

The death of Florida Bay will precede the end of a way of life in South Florida. The Bay is the northern neighbor of the Florida Keys National Marine Sanctuary, which was designated to preserve the imperiled Keys coral reef. The reef, a delicate colony of marine life, is an irreplaceable treasure. At best, less-than-concerted action to address this problem will further strain the "web of life" -- a metaphor which does not refer solely to the marine ecosystem. The human consequences are equally serious. Just ask the fishermen, shrimpers, divers, and residents of the Keys.

Loss of the seagrass habitat alone already has impacted many economically important fish and shellfish species. The Bay ecosystem supports the livelihood of thousands of commercial and sport fishermen, attracts millions of tourists, and promotes hundreds of millions of dollars of spending in the state each year. These are only a few reasons to seek a solution for what is, sadly, a man-made problem.

In the course of Florida's rapid development, our ignorance of the importance of the greater Everglades ecosystem's water flow has resulted in mismanagement and the loss of half of the original wetlands. We now are seeking to reverse this damage.

Effective treatment for the Bay will evolve from our current partial understanding of the reasons for the biological imbalance. Most scientists agree that Florida Bay's ill health is produced by a synergy of factors. Problems stemming from the quality, quantity, timing, and distribution of fresh water flows pervade the system from the Kissimmee River to the plankton-choked waters of Florida Bay. As a result, there simply is no "Florida Bay fix." We need a coordinated, committed interagency effort to produce an effective plan for the greater Everglades ecosystem.

In January, Interior Secretary Babbitt proposed the formation of a task force to undertake a comprehensive research program into the causes of the biological changes in the Everglades system. This working group will act as the vehicle for a science-based solution,

conducting monitoring and water quality studies. A long-term, comprehensive approach will include steps to redirect essential fresh water flows to the Bay.

The "Save the Florida Bay Act" will support the Administration's proposal to establish an interagency working group. It authorizes \$3,000,000 to conduct a targeted study of the Bay's problems, including the impact of Hurricane Andrew. This report, which will be submitted to Congress, will provide guidelines for further research to restore healthy hydrological conditions in the Bay. This legislation also will include Florida in the Coastal America program, and make the state eligible for priority consideration under the National Estuary Program, which prioritizes wetlands for preservation.

I hope you will support this effort to restore the Florida Bay ecosystem to its original majesty. There is no replacement for this inheritance. In the words of Marjorie Stoneman Douglas, "There are no other Everglades in the world."

Thank you for reviewing my comments.

Mr. APPLGATE. Okay. I thank you very much for all of your statements. It really is a very, very serious problem, I can see.

The map isn't much that we can look at, but it shows the tip of it down here and it shows the Florida Bay in blue. Is Florida Bay, is the whole of Florida Bay a park or just parts of it, or what?

Mr. DEUTSCH. All of Florida Bay is included within the Everglades National Park. The boundary of the park includes all of Florida Bay.

Mr. APPLGATE. You say that there is an explanation. What is the explanation? I mean for this—

Mr. SHAW. To try to understand the problems of what is going on in Florida Bay, you have to go all the way up, as I mentioned in my earlier testimony, all the way up to Disneyworld and the Kissimmee River. The Kissimmee River many, many years ago was channelized, which drained off a large part of the northern part north of Lake Okeechobee.

From that, there has developed a great deal of surface water drainoff in an agricultural area, which is predominantly cattle farms. The dairy industry is very strong up in there.

What has happened over the years, Lake Okeechobee, which I can remember as a youngster as a clear lake, you could walk out in the lake and see your feet. I have heard people say that in 10 feet of water, you could read the date off of a dime. That is no longer true. You cannot find the dime now if you drop it.

Then when you go south of Lake Okeechobee, there is a great deal of agricultural activity. That is taking place in the south end of the lake. This developed with the demise of the trade with Cuba. With Castro coming in, a lot of the sugarcane industry developed in that part of Florida.

There is a lot of finger-pointing as to who is responsible, but there is also a question which has to be addressed, which is the very livelihood of South Florida, its underground rivers. The Biscayne Aquifer which runs through there, is the area from which all of southeast Florida gets its fresh drinking water and that runs of course under the Everglades as an underground river.

We need to understand better the drainage that has occurred. We found that our coastal cities, their deep wells, now, they are having to move further and further inland because of the salt that has come in and contaminated these particular wells.

The whole system has to be looked at as far as what is going on down there in South Florida. The problems are abundant.

We are seeing great change in the Everglades. We are seeing great change in the water birds that nest there. We are finding tremendous change in them and they are leaving that area. By just altering the depth of the water, you see the various water birds with various length legs, those legs are adapted to certain depths of water. That is changing. The whole thing is changing and desperately needs our attention.

The Federal Government, because of its large interest in the Everglades National Park, which Peter referred to as including the area of our immediate concern, is the agency that should go forward and be responsible for coming up with some plans to solve some of the problems.

Now, I might say that one of the things that you will hear from the people in South Florida, that these things have been studied to death and now is the time to go forward with the implementation of a plan.

I think that an audit and an inventory of the various studies should be made and perhaps it would be well if this was made jointly by the staff of this committee as well as the Department of the Interior in cooperation with the South Florida Water Management District, the State of Florida, and other agencies that are concerned down there, to try to come up and implement a way to go forward.

Mr. Chairman, I would like to invite you and Members of your subcommittee to come down to Florida and have some hearings and actually go on to the waters, go on to Florida Bay and see firsthand what is happening down there, see the problems that we are very concerned about that will give you a greater appreciation of the natural resource that this country owns and has a tremendous responsibility as a steward of this great natural resource.

Mr. APPLGATE. So has this process been going on—I guess it has increased more with the population and industrialization of Florida as time goes on?

Mr. SHAW. Well, the algae bloom that appeared in great quantity last year, the die-off of so much of the seagrass which is the natural filter as the water comes south, we are seeing all of these things happening. And they are warning signs that we are dealing with a dying natural resource.

You know, if you want to go back and try to pinpoint, I guess, you would have to go back and start talking about Henry Flagler who made it easier for the early population of South Florida to come southward with the advancement of the railroad and the Canal Company that dug out our waterways coming south. And of course many of your constituents now are adding to the problem by coming to South Florida, which they are certainly welcome and we love to see them, but our population is continuing to grow, and we need desperately to have a plan as to how we are going to solve some of the tremendous problems that are becoming worse and worse. And the problem is growing at a tremendous speed.

Mr. Florida Keys himself, Dante Fascell is here today, and he did not come here to testify, but perhaps he would have something from a historic perspective, something that he might like to add, and I would certainly invite him to join us if he cares to. It is great to see him.

Mr. DEUTSCH. Mr. Chairman. If I could follow up, the way I hear your question, the Everglades system, as Congressman Shaw ably discussed, has been dramatically affected by human development over the last 75 years. The phenomenon of the degradations of the Bay itself; because there is no fresh water flow into the Bay, there is an algae bloom that exists in the Bay which is huge. And it did not exist a couple of years ago. The actions of man over 75 years have changed the flow of water through the Everglades and into the Bay.

The Everglades is a river of grass. "Everglades" is River of Grass in Indian language. It is the only Everglades in the world, the only such ecosystem in the world. As the sheet flow has come south, it

is not the natural system anymore. Florida Bay itself is not getting both the quantity of fresh water and the seasonal adjustment that occurred in the past.

The South Florida Water Management District, which is a State agency with an interaction with the Federal Government through the Corps of Engineers, is trying to address this problem. But the phenomenon is related to the Bay itself. It is important to look at the crisis as the result of the change in the entire Everglades ecosystem. This system begins North of Lake Okeechobee and the Kissimmee Basin. What is happening in the Bay is caused by fresh water not coming down through the river of grass.

Specifically, the bay itself is at a crisis level. It has occurred. It's not something that has become worse and worse over the last 10 years. There has been an exponential degradation over the last two years or so, and that is the ecological phenomenon, which continues to worsen.

We have to look at the system as a whole, but the specific things that we can do to the Bay are much less expensive and much more immediate and much more critical.

Mr. APPLEGATE. Let me ask you, Clay, what is the status of the dechannelization of the Kissimmee River that was authorized last year?

Mr. SHAW. The river is in process now, the Kissimmee River, of being dechannelized. And there is a lot of fussing going on about it. There is no question about that. When you start doing that, you are going to start flooding some of the lands that were drained. But I think that project has been going forward.

I would like to also comment, there are two Senators in Florida who are very active on this particular subject and they will be filing their own bill over in the Senate addressing this same subject, so there will be a companion bill on that side.

Mr. APPLEGATE. Your bill establishes a committee of various agencies to try to coordinate the roles in the Florida Bay, but how does Florida itself fit into that process?

Mr. SHAW. Well, the State of Florida has been very active. The Governor has been very concerned about this and he has been working on this particular project.

Peter, you might be able, just being out of the Florida legislature, you might be able to state how the question is being addressed.

But I think, Mr. Chairman, you can understand that when you are talking about the different forms of jobs as you go up the State, different forms of enterprises, particularly the agricultural industry, it has been a very sensitive issue. It has been a very hot political issue. There have been many hearings and people trying to come up with compromises.

It appears that some progress has been made with the sugar people up around Lake Okeechobee, but the bottom line has to be that the Florida Everglades and the Bay must be saved, and if we have to step on some toes then that is going to have to happen.

Florida is a top agricultural State, but still we have to conduct ourselves in a responsible manner, taking into consideration the continuation of the natural resources that we do have and be sure that we do not destroy these natural resources just because one industry has a louder voice than another.

The primary concern that we must have in government is the salvation of the natural resource of the Everglades, the Florida Bay, Lake Okeechobee and of course the water supply for all of South Florida which is affected by what we do.

Mr. APPLEGATE. Your agricultural industry is very large in Florida. I didn't realize how big it was. And particularly in dairy and cattle, beef-cattle. I understand it is the largest beef-cattle State in the United States.

Mr. SHAW. It either is or is certainly one of them. Yes, sir. It is a tremendous industry.

Mr. DEUTSCH. Mr. Chairman, just to give you a sense of the Federal and State role, and how complicated these issues really are, the Federal Government actually sued the State of Florida. Congressman Ros-Lehtinen's husband was the District Attorney for that part of Florida at the time. The Federal Government sued the State of Florida for polluting the Everglades Park.

As a result of the suit, the State and Federal governments have entered into a consent agreement as to actions of the State in the park. In fact, EPA administrator Browner was the Director of the State Environmental Agency that negotiated in that agreement.

So the State is involved. In terms of jurisdiction, the land north of the park is generally State conservation areas. And again, the water management district, which has a huge geographical jurisdiction, and is a State agency appointed through the Governor's office, controls the flow of the water through the canal system in South Florida.

I believe that the State is very much committed, but it also is clearly the Federal Government's role and responsibility to force the issue. It has to happen through us. It is our responsibility. I can remember worse problems which this committee has been part of solving, in terms of cleaning up problems, even just dealing with it ecologically. I look at that Bay and then I know we can save Florida Bay.

We need to know more as well. While there are scores of colleges that are working on, for example, Chesapeake Bay, and that is not the case with Florida Bay right now. As a resource for this country, I don't think it has been given the resources that it needs in relationship to its importance.

Mr. APPLEGATE. Well, I appreciate your input. I guess the more that you look at it, the more that you realize what a terrible problem that there is. And we have yet to sit down and really put together what it is that we feel is necessary to take care of the individual problems of the States, but Florida will certainly get—they are going to be right up there with priorities, too.

Mr. SHAW. Mr. Chairman, don't forget our invitation to come south and see us.

Mr. DEUTSCH. It is really a case of a picture being worth a thousand words. To physically see the algae bloom from the air is actually a better sight than even being on the water. When you are there, you can really get a sense of the problem.

Mr. APPLEGATE. It is better to go south than north, especially in the dead of winter.

Thank you again.

Congressman Oberstar was to be here today, but he is tied up with other hearings, and without objection, his statement will be made a part of the record.

[Mr. Oberstar's prepared statement follows:]

STATEMENT OF HON. JAMES L. OBERSTAR  
SUBCOMMITTEE ON WATER RESOURCES  
COMMITTEE ON PUBLIC WORKS  
Hearings on Clean Water Act  
April 21, 1993

Mr. Chairman, thank you for the opportunity to appear before you, to speak on behalf of my draft Nonpoint Source Pollution Prevention Act, legislation to strengthen the nonpoint source provisions of the Clean Water Act.

We have just been given a timely and dramatic illustration of the need for this legislation. In the last few weeks, thousands of residents of Milwaukee, Wisconsin, were stricken by a flu-like illness, traced to the protozoan *Cryptosporidium*. This is a waterborne organism which entered the city's drinking water system, in all probability, from a farm on a tributary to Lake Michigan, from which Milwaukee draws its water, and passed through the treatment system unhindered.

We call such disease organisms, toxics, sediment and nutrients, which originate on farms, forests, construction sites, city streets and mines "poison runoff," or "nonpoint source pollution." It is the last remaining major gap in Clean Water Act pollution control measures.

Though outbreaks like the one in the Milwaukee are not common, they are far from rare. EPA reports 76 such outbreaks of waterborne disease, striking 67,000 people, in the 5-year period 1986 to 1990. EPA stresses that these figures grossly under-represent the real incidence of such diseases.

While drinking water treatment must remain the first line of defense against waterborne pathogens, pollution prevention in this as in every other case could reduce the costs of water purification, spare our citizens the possibility of disease from organisms that get through the treatment process, and reduce industry costs as well.

The Federal Water Pollution Act Amendments of 1972 set the nation on its current cleanup course. As Committee Administrator at that time, I find myself now the only Member of Public Works and Transportation who remembers and contributed to the effort that went into its enactment.

The first line of that landmark legislation, in Section 101(a), declared it the objective of the Act "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Congress added, in the 1987 amendments, "it is the national policy that programs of the control of nonpoint sources of pollution be developed and implemented in an expeditious manner so as to enable the goals of this Act to be met through the control of both point and nonpoint sources of pollution."

Since 1972, American citizens as Federal and State taxpayers have spent \$75 billion to clean up municipal point sources. Through 1989, industry, and citizens as consumers, have spent over \$130 billion on cleaning up industrial point sources, including \$67 billion in capital expenditures and \$63 billion in operating costs. Ninety percent of municipalities, and 95% of industry, currently comply with the Act.

Yet, despite that costly sacrifice, and high compliance rate, fully one-third of the Nation's assessed waters have not attained water quality standards. Less than half of our total waters have been assessed, meaning that a much more significant though unknown number of waterbodies are impaired, and more are threatened.

The major cause of this failure to meet the standards is nonpoint sources of pollution -- or poison runoff -- the unfinished agenda of the 1972 Act.

The National Research Council has estimated that the total economic costs associated with agricultural runoff alone are between \$2 billion and \$16 billion per year -- and this is only one category of nonpoint sources! As this Subcommittee well knows, the Army Corps of Engineers alone spends about \$450 million a year dredging sediment from our harbors and waterways. Many industries have to treat water before they use it because it is too befouled for their processes. They treat it again at the end of their process and return it cleaner at the outfall than at the intake. How much cheaper to keep pollutants out of the water in the first place!

Mr. Chairman, it is time to complete the task set forth in 1972, to attain the objective of chemical, physical and biological integrity of the nation's waters, and to make sure that the American people, who have already paid so dearly, get their money's worth in terms of fishable, swimmable waters, or as the Act more elegantly if ponderously terms it, "protection and propagation of shellfish, fish and wildlife, and recreational activities in and on the water."

As author of Section 319 of the Clean Water Act, Nonpoint Source Management Programs, which became law as part of the 1987 Amendments, I have developed and circulated a discussion draft of new legislation which would strengthen Section 319, treat nonpoint sources with the same determination as we have addressed point sources, and at long last close the last remaining gap in the Clean Water Act.

This draft is intended to build on the assessments and planning which should have already been done under Sections 208 and 319; and not to impede actions taken since, under Section 319, under the Coastal Zone Act Reauthorization Amendments (CZARA) of 1990, and under the Department of Agriculture's Water Quality Incentive and other conservation programs. For example, a farmer participating in certain USDA programs such as the Water Quality Incentives Program would be considered in compliance with my bill.

The bill rests on shared responsibility: the States and, to the extent possible, local jurisdictions and organizations, would be the main implementors, along with individual land owners/operators. The Federal government, as it does now, would provide direction, guidance, and financial support.

The program is based on watersheds, and targets those which are impaired or threatened.

The bill tracks closely the recommendations of Water Quality 2000. It includes site-level plans, voluntary and enforceable state programs, and reliance on the expertise of USDA and other agencies for technical assistance and funding. It builds on existing Section 319 programs, adopts the management measures developed by EPA and the National Oceanographic and Atmospheric Administration under CZARA as well as the enforceable mechanisms required by that Act; and uses the site-level approach of various Department of Agriculture conservation and water quality programs.

It offers incentives for so-called "good actors," those who have and are implementing approved site-level plans, while preparing a necessary enforcement fall-back for "bad actors" who refuse to clean up.

The bill sets as a goal the full restoration and protection of the nation's waters. This is defined as the attainment and maintenance of water quality standards; the protection and propagation of a balanced, indigenous population of aquatic and aquatic-dependent species, aquatic ecosystem biodiversity, and habitat restoration and maintenance; protection of public

health; restoration and maintenance of recreational activities in and on the water; and protection of underwater sediments through pollution prevention activities.

It requires states to revise their on-going management programs under Section 319, targeting those watersheds which are classified as impaired or threatened under various CWA provisions. States are to prioritize these watersheds, divide them into fifths, and implement Watershed Implementation Programs, starting with a new fifth each year.

The Watershed Implementation Programs would be composed of site-level plans (patterned on USDA's site-level plans for agriculture) developed by land owner/operators along the watershed. The program would borrow heavily on the Soil Conservation Service's technical assistance and experience in working with farmers, to help them develop these plans. EPA would approve the states' revised plans, but not the individual site-level plans.

Implementation would be an iterative process. Four years after implementation, the state would assess the watershed and, if full restoration and protection have not been achieved, would require additional measures, either by owner/operators already implementing plans, or by other sources. This process would be repeated every two years thereafter until full restoration and protection have been achieved. Monitoring in subsequent years would assure that full restoration and protection are maintained.

The bill requires states to develop enforceable mechanisms -- as are already required for coastal states under CZARA. As long as an owner/operator has developed and is implementing a state-approved site-level plan, he or she would not be subject to enforcement.

The bill also ensures that states will participate in the program. Under the point source enforcement program, the National Pollutant Discharge Elimination System (NPDES), EPA can take over and implement a state's permit program if the state no longer meets the requirements of Section 402. However, I did not believe it appropriate for EPA to become involved in implementing site-level plans under a nonpoint program. Therefore, while EPA could under my bill develop a nonpoint source management program for a state, it would not be able to implement this program. Rather, the state not meeting nonpoint requirements would not be able to approve new (as opposed to simple extension of existing) Section 402 permits, or Section 404 permits, either statewide or, if other watersheds are complying, in a single non-complying watershed, until EPA finds the state is meeting requirements.

The bill also establishes a Federal nonpoint source control program, directly under the President, for lands owned or managed by the Federal government.

It requires EPA to establish water quality criteria for those nonpoint pollutants for which such criteria have not yet been set.

It codifies existing Federal antidegradation policy.

It contains provisions to assure that new sources of nonpoint source pollutants are identified prior to any action being taken, and that state-of-the-art controls are used on these new sources before they cause pollution.

And, finally, the bill creates a Citizen Watershed Monitoring Program to assist states in monitoring their waters. The states would by contract, cooperative agreement or other means develop citizen programs, provide training, and implement quality control and assurance measures to make sure that the data gathered by citizens are useful to the state. The nonpoint and other amendments to the CWA will put heavy monitoring burdens on states, and I believe a citizen program, properly designed and run, can assist states in this effort.

Finally, comes the crucial element of funding for this program. I have tentatively proposed \$100 million per year from the State Revolving Fund. I would welcome other suggestions, both on the adequate level, and the source, since loans are not always as easily made to individual land owners/operators as to municipalities. Hopefully, the Soil Conservation Service will remain a major source of assistance for farmers implementing site-level plans under the Water Quality Incentives and other USDA programs as well as this one.

Also, the States will need adequate administrative funding for this and the other new tasks that will be imposed upon them under the new legislation. I fully sympathize with the complaints of the states as to ever-increasing federal mandates with no concomitant increase in federal funds.

I know that this Committee will face many competing demands for funding as you develop the bill; but since nonpoint sources are the major cause of water pollution, I would hope that this program would receive a share of control and prevention funding commensurate with the task.

Mr. Chairman, I believe that this bill is fair and necessary, if America is to achieve the goal of clean water. We have several choices. We can continue to charge taxpayers and industry for ever-more-costly wastewater treatment and for maintenance of navigation on silt-choked rivers. We can continue to inflict losses on commercial fishing and shellfishing, and deny water recreational opportunities to our people. Or, we can finally consummate the goal of the 1972 Act, and close the last remaining gap in that Act's ability to protect America's waters.

I would add that the bill is a discussion draft. It has been very widely distributed, and I have begun to receive comment on it. I hope to have the bulk of the comments by the end of this month, then to review them and incorporate as much as possible in a revised version.

Ultimately, of course, I hope my Nonpoint Source Pollution Prevention Act can be included in the Clean Water Act Amendments you will be writing later this year. I will be happy to work with you and your staff on this, and look forward to doing so.

Mr. APPLEGATE. The subcommittee now stands in recess until 9:30, tommorrow. At that time we will hear from various environmental organizations as well as agricultural interests.

[Whereupon, at 12:33 p.m., the subcommittee was recessed.]

PREPARED STATEMENTS SUBMITTED FOR THE RECORD  
TESTIMONY OF

CONGRESSMEN GARY ACKERMAN (NY-5) AND CHRISTOPHER SHAYS (CT-4)

H.R. 1035, LONG ISLAND SOUND RESTORATION ACT OF 1993

WATER RESOURCES SUBCOMMITTEE

April 21, 1993

Mr. Chairman and members of the House Public Works and Transportation Subcommittee on Water Resources:

Thank you for giving us the opportunity to come before your subcommittee. As members of the Long Island Sound Caucus, we are here today to discuss an issue of great significance to our constituents and, we believe, to our nation -- the potential destruction of this precious estuary, Long Island Sound. We are also here to discuss what the federal role can be, given our limited resources.

More than 14.5 million people live within the Sound's drainage basin. This statistic is important because it shows the Sound is enjoyed by millions as a source of recreation, aesthetic beauty and livelihood.

It also highlights the tremendous burdens on this estuary as a result of exceptionally high population density, which makes the Sound a unique challenge in terms of addressing its pollution problems.

Our waterways have seen great improvement due to the federal commitment and the efforts of this subcommittee. But we feel the federal government must play a greater role in providing direct assistance for sewage treatment plant upgrades given the magnitude of the problems throughout the nation, and particularly in New York City.

The members of the Long Island Sound Caucus are pleased to see a Congress and an Administration committed to preserving our nation's environmental quality. The President's initial stimulus package called for injecting more than \$800 million to refinance the State Revolving Fund (SRF) program. This is a recognition not just of the importance of cleaning up our nation's waterways, but that the work involved is of substantial economic benefit to the nation in both the short and long term.

Study of the Sound began in 1985 by the Environmental Protection Agency (EPA), and the States of Connecticut and New York. In 1988, Long Island Sound was designated an "estuary of national significance" and as such the EPA, the States of Connecticut and New York formed a management conference to formulate a Comprehensive Conservation and Management Plan (CCMP). After seven years and \$12 million, the draft CCMP was released last November. The CCMP identified areas that need special attention, including the most pressing problem, low dissolved oxygen or "hypoxia," caused primarily by nitrogen emissions by sewage treatment plants.

In 1994, the hydrodynamic model, currently being constructed, will be ready to identify the sources of nitrogen and other pollution so we know where to focus our limited resources to have greatest impact on the overall health of the Sound.

The draft CCMP for Long Island Sound estimates that controlling nitrogen loadings into Long Island Sound could cost as much as \$8 billion. If all recommendations of the CCMP were to be implemented, the total sewage treatment plant need is estimated to be approximately \$25 billion in New York, and \$3.5 billion in Connecticut. Both states are currently straining to find the resources to accomplish all that needs to be done.

We are painfully aware the federal budget deficit is making it difficult to address all pressing needs. It is our hope over the next several years we will make headway in getting our financial house in order. It is only then we will have adequate funds to address our water quality needs.

In the meantime, it is important we establish some pilot programs with innovative technologies so we will know what works when more money is available. These technologies can help further efforts to develop cost effective, less expensive ways to improve water quality.

The state of Connecticut, for example, created a program to enable coastal municipalities, which have plants with excess sewage treatment capacity, to remove nutrients without going to tertiary treatment.

The Stamford Sewage Treatment facility is employing a process called nitrification and denitrification. It is successfully removing at least 70 percent of the nitrogen without making any physical changes to the plant. Since the Stamford plant has excess capacity, the costs required for this process entails only \$10,000 more in higher electrical costs. Of course, this is not the situation in all of our plants, as you well know.

Another example is the Tallman Island Plant in Queens, New York, which is experimenting with aeration methods and has been successful in enhancing its nitrogen removal capability.

The bottom line is, with secondary plus treatment, we may be able to do much more than we are now doing and at a minimal cost.

Our proposal is the product of meetings with scientists, environmentalists and state and city officials in New York and Connecticut in an effort to come up with a demonstration program, which can serve as a model for estuary conservation throughout the country.

H.R. 1035 authorizes the federal government to spend \$250 million over five years, with a 70 percent federal, 25 percent state and five percent local match. Because state and local communities will directly benefit from this demonstration program, we feel it is important to have some state and local matching requirements.

This demonstration program would target six candidate harbors or bays for remediation. Our goal would be to significantly rejuvenate these harbors within five years. The six harbors would serve as "laboratories" in which to test innovative clean up technologies. It is our hope that through trial and error, we will see in these harbors what works and what does not.

Under our demonstration program, we would target harbors where the beaches are widely enjoyed by swimmers and where sport fishing, boating and shellfishing are integral parts of the life of the community. Another important part of the selection criteria would be -- what can we learn from these candidate harbors?

In conjunction with the Long Island Sound Status Report and Interim Actions for Hypoxia's call for immediate action to address the problem of hypoxia, these candidate harbors could be designated as "no net discharge zones" for nitrogen.

They would serve as model clean up areas. Improvements could involve both point source and non-point source remediation. It would be up to the states to develop a specific management plan for each candidate harbor.

With regard to point source pollution, although we hope the state revolving loan program will provide sufficient funding for point sources, our program would encourage the implementation of innovative technologies for nitrogen removal.

We also would like to see additional training for sewage treatment plant operators to facilitate effective troubleshooting and to reduce operational errors. There is also a need for greater attention to operation and maintenance programs to reduce the number of mechanical problems at some of our aging plants.

With regard to nonpoint sources, in these candidate harbors, we would encourage wetland protection, restoration and construction. We would also encourage greater use of buffer strips, stricter land-use protections and the placement of sediment and runoff basins. Boats could be required to employ marine sanitation devices. Efforts also should be made to address problems with aging septic systems.

The states would work in conjunction with the Long Island Sound Management Committee (under the Long Island Sound Study) to develop a competitive selection process. They also would decide what combination of improvements should be implemented in each of the harbors.

In assessing the programs's success, we will look to actual signs of improved water quality. There will have to be visible and tangible improvements in recreational uses and marine life and obviously, the water would have to be cleaner. In other words, we would judge success on whether the public could now "do" or "see" what they could not "do" or "see" a few years before.

If we see rejuvenation in these candidate harbors, we feel this demonstration program could be expanded on a larger scale, not only throughout Long Island Sound, but in other estuaries as well. We could, of course, increase our goals with additional funding, but are very cognizant of budget restraints.

This plan will also have tremendous economic benefits for the Long Island Sound region. An estimated 12,000 construction jobs, and 28,000 to 32,000 support jobs, will be created by this effort. Added to this is the benefit to commercial fishing and waterfront recreation, which is still a billion dollar industry despite the erosion of water quality we have seen.

Mr. Chairman, we hope you and your subcommittee will look favorably on our proposal and consider it for inclusion in the reauthorization of the Clean Water Act. Thank you for giving us the opportunity to testify.

103D CONGRESS  
1ST SESSION

# H. R. 1035

To authorize the Administrator of the Environmental Protection Agency to make grants to the States of New York and Connecticut for the purpose of demonstrating methods of improving water quality in Long Island Sound.

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## IN THE HOUSE OF REPRESENTATIVES

FEBRUARY 23, 1993

Mr. ACKERMAN (for himself, Mr. SHAYS, Mr. HOCHBRUECKNER, Mr. GEJDE-ENSON, Mrs. LOWEY, Mr. ENGEL, Ms. DELAURO, Mrs. KENNELLY, Mr. KING, Mr. MANTON, Mr. SCHUMER, Mr. TOWNS) introduced the following bill; which was referred jointly to the Committees on Public Works and Transportation and Merchant Marine and Fisheries

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## A BILL

To authorize the Administrator of the Environmental Protection Agency to make grants to the States of New York and Connecticut for the purpose of demonstrating methods of improving water quality in Long Island Sound.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the "Long Island Sound  
5 Restoration Act".

## 2

1 **SEC. 2. LONG ISLAND SOUND DEMONSTRATION PROGRAM.**

2 (a) **IN GENERAL.**—The Administrator shall carry out  
3 a demonstration program under which the Administrator  
4 may make grants on an annual basis to the States of New  
5 York and Connecticut in accordance with this section.

6 (b) **PURPOSES.**—The Administrator shall carry out  
7 the program under subsection (a)—

8 (1) to demonstrate methods of restoring and  
9 maintaining the water quality of designated bays  
10 and harbors of Long Island Sound at which water  
11 quality standards adopted pursuant to section 303  
12 of the Federal Water Pollution Control Act have not  
13 been achieved or at which other significant water  
14 quality degradation has occurred;

15 (2) to demonstrate the importance of control-  
16 ling nonpoint sources of pollution in restoring and  
17 maintaining water quality;

18 (3) to enhance opportunities for water-depend-  
19 ent recreational activities, maintain a healthy eco-  
20 system, protect and enhance marine life, minimize  
21 health risks associated with human consumption of  
22 shellfish and finfish, and ensure that social and eco-  
23 nomic benefits to the general public associated with  
24 Long Island Sound are advanced; and

25 (4) to advance goals and recommendations con-  
26 tained in the Comprehensive Conservation and Man-

## 3

1       agement Plan of the Long Island Sound Study de-  
2       veloped pursuant to section 320 of the Federal  
3       Water Pollution Control Act.

4       (c) DESIGNATION OF BAYS AND HARBORS.—

5             (1) IN GENERAL.—In order to be eligible to re-  
6       ceive grants under subsection (a), the States of New  
7       York and Connecticut shall each designate in accord-  
8       ance with paragraphs (2) and (3) bays and harbors  
9       of Long Island Sound at which the State plans to  
10      carry out eligible activities with amounts of such  
11      grants and transmit such designations to the Admin-  
12      istrator.

13            (2) DESIGNATIONS BY STATE OF NEW YORK.—  
14      The State of New York shall designate pursuant to  
15      paragraph (1) one bay or harbor in each of the fol-  
16      lowing 4 political subdivisions of the State of New  
17      York: Westchester County, Nassau County, Suffolk  
18      County, and New York City.

19            (3) DESIGNATIONS BY STATE OF CONNECTI-  
20      CUT.—The State of Connecticut shall designate pur-  
21      suant to paragraph (1) one bay or harbor in 2 of the  
22      following 4 political subdivisions of the State of Con-  
23      necticut: Fairfield County, New Haven County, Mid-  
24      dlesex County, and New London County.

1           (4) PARTICIPATION OF MANAGEMENT COMMIT-  
2     TEE.—The States of New York and Connecticut  
3     shall each make designations pursuant to paragraph  
4     (1) in cooperation with the Management Committee  
5     of the Long Island Sound Study established pursu-  
6     ant to section 320 of the Federal Water Pollution  
7     Control Act.

8           (5) PARTICIPATION OF NEW YORK CITY.—The  
9     State of New York shall designate a bay or harbor  
10    in New York City pursuant to paragraph (1) in co-  
11    operation with the Mayor of New York City (or the  
12    designee of the Mayor).

13          (d) TERMS AND CONDITIONS.—The Administrator  
14    may make a grant to a State under subsection (a) only  
15    if the State enters into an agreement with the Adminis-  
16    trator which contains the following terms and conditions  
17    for receipt of the grant:

18           (1) USE OF GRANT.—Except as provided in  
19    paragraph (3), all amounts of the grant shall be  
20    used by the State—

21           (A) to carry out eligible activities and a  
22    monitoring program pursuant to paragraph (4)  
23    at bays and harbors designated by the State  
24    pursuant to subsection (c); and

## 5

1 (B) to educate the public, in coordination  
2 with the office established pursuant to section  
3 119 of the Federal Water Pollution Control  
4 Act, on the implementation and results of such  
5 eligible activities.

6 (2) DISTRIBUTION OF GRANTS AMOUNTS.—  
7 Equal amounts of the grant shall be used by the  
8 State for conducting eligible activities at each bay  
9 and harbor designated pursuant to subsection (c).

10 (3) ADMINISTRATIVE EXPENSES.—Not to ex-  
11 ceed 1.5 percent of the amount of the grant may be  
12 used by the State for staff salaries and other admin-  
13 istrative expenses incurred by the State in carrying  
14 out activities with the grant.

15 (4) MONITORING.—The State shall design and  
16 carry out a program for monitoring water quality at  
17 bays and harbors designated pursuant to paragraph  
18 (c) in order to determine the effectiveness of eligible  
19 activities being conducted by the State using  
20 amounts of the grant. Activities under such program  
21 shall be reviewed and evaluated by the Long Island  
22 Sound Study Scientific and Technical Advisory Com-  
23 mittee and by the Long Island Sound Monitoring  
24 Work Group.

## 6

1           (5) REPORTING.—The State shall comply with  
2 reporting requirements contained in subsection (f).

3           (e) DISTRIBUTION OF GRANTS.—The Administrator  
4 shall use  $\frac{2}{3}$  of the amounts appropriated in a fiscal year  
5 to carry out this Act for making grants to the State of  
6 New York under subsection (a) and  $\frac{1}{3}$  of such amounts  
7 for making grants to the State of Connecticut under sub-  
8 section (a).

9           (f) REPORTS.—

10           (1) REPORTS TO THE ADMINISTRATOR.—A  
11 State receiving a grant under subsection (a) shall  
12 transmit to the Administrator, not later than 18  
13 months after the date of receipt of the grant and bi-  
14 ennially thereafter for the term of the program  
15 under subsection (a), a report on eligible activities  
16 carried out by the State using amounts of the grant  
17 and on the results of the monitoring program car-  
18 ried out by the State pursuant to subsection (d)(4),  
19 including a summary of evaluations conducted pur-  
20 suant to subsection (d)(4). Any such report may be  
21 transmitted as part of a report submitted by the  
22 State pursuant to section 320(h) of the Federal  
23 Water Pollution Control Act.

24           (2) REPORT TO CONGRESS.—On or before the  
25 last day of the 5th fiscal year beginning after the

1 date of the enactment of this Act, the Administrator  
2 shall transmit to Congress a report on the results of  
3 the program conducted under subsection (a), to-  
4 gether with an analysis on the extent to which the  
5 purposes described in subsection (b)(3) have been  
6 realized and recommendations for appropriate ad-  
7 ministrative and legislative actions.

8 (g) NON-FEDERAL SHARE.—The non-Federal share  
9 of the cost of activities carried out with amounts from  
10 grants under subsection (a) in a fiscal year shall be 30  
11 percent. One-sixth of such non-Federal share shall be pro-  
12 vided by sources in the locality in which such activities  
13 are carried out.

14 (h) DEFINITIONS.—For the purposes of this Act, the  
15 following definitions apply:

16 (1) ADMINISTRATOR.—The term “Adminis-  
17 trator” means the Administrator of the Environ-  
18 mental Protection Agency.

19 (2) ELIGIBLE ACTIVITY.—The term “eligible  
20 activity” means an activity conducted for the pur-  
21 pose of addressing one or more of the following  
22 problems:

23 (A) POLLUTANTS FROM NONPOINT  
24 SOURCES.—Urban and suburban runoff of pol-  
25 lutants into Long Island Sound from forestry,

1 agriculture, and other land uses. Such pollut-  
2 ants include sediments associated with logging,  
3 pesticides, fertilizers, animal waste, litter, over-  
4 flows from failing septic systems, leaching of  
5 contaminants from landfills, and discharges  
6 from coastal development and construction  
7 sites.

8 (B) WASTE FROM RECREATIONAL  
9 BOATS.—The discharge of waste into Long Is-  
10 land Sound from recreational boats and the  
11 leaching of antifouling paints.

12 (C) POLLUTANTS CARRIED BY RIVERS.—  
13 Pollutants which are carried by rivers into Long  
14 Island Sound.

15 (D) AIRBORNE POLLUTANTS.—Airborne  
16 pollutants which are emitted and attached to or  
17 absorbed by moisture and particles in the envi-  
18 ronment and which enter Long Island Sound.

19 (E) WETLANDS DEGRADATION.—The dete-  
20 rioration of tidal wetlands of Long Island  
21 Sound from their natural state and the adverse  
22 effects of such deterioration on near-shore habi-  
23 tat.

24 (F) POLLUTANTS FROM POINT SOURCES.—  
25 Pollutants discharged into Long Island Sound

1           from a discharge pipe, sewage treatment plant,  
2           or industrial facility.

3           (i) AUTHORIZATION OF APPROPRIATIONS.—There is  
4 authorized to be appropriated to carry out this Act  
5 \$50,000,000 per fiscal year for each of the first 5 fiscal  
6 years beginning after the date of the enactment of this  
7 Act.

○

BENJAMIN L. CARDIN  
3D DISTRICT, MARYLAND

COMMITTEE ON WAYS AND MEANS

SUBCOMMITTEE ON HEALTH

SUBCOMMITTEE ON HUMAN RESOURCES

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**Congress of the United States**  
**House of Representatives**  
**Washington, DC 20515-2003**

Congressman Benjamin L. Cardin

Testimony before the Subcommittee on  
Water Resources and Environment  
April 21, 1993

Mr. Chairman, I greatly appreciate the opportunity to appear before your Subcommittee. As a former member of the Water Resources panel, it is always nice to be back. This year though, you face a real challenge in shaping a comprehensive reauthorization of the Clean Water Act. This legislation has accomplished much over the years, but also found its share of controversy.

I am here seeking support for continuing and building upon one of the real success stories of the Clean Water Act -- the Chesapeake Bay Program. Begun over 10 years ago, with the signing of the original Chesapeake Bay Agreement by the EPA Administrator, the Governors of Maryland, Virginia, and Pennsylvania, the District of Columbia Mayor, and the tri-State Chesapeake Bay Commission Chairman, the Bay Program has grown into an international model for regional, intergovernmental cooperation in long-term environmental restoration and protection.

Later today, I, along with many of my colleagues from throughout the region, will be introducing the Chesapeake Bay Restoration Act of 1993. Rarely is a piece of legislation so broadly and deeply supported. This bill has the support of every imaginable group interested in the Bay --- each of the regional states and DC, industry groups, and a wide array of environmental and citizens groups. There is perhaps no other issue that so unites the people of the Mid-Atlantic states as the clean-up of the Chesapeake. It is our hope that this Subcommittee will include language to continue and improve the Chesapeake Bay Program in the new Clean Water Act, as has happened in the past.

This year's bill seeks to better coordinate the many federal activities and responsibilities related to the Bay. Organizing varying federal agencies' efforts in the clean-up has become increasingly important. Today, 9 federal agencies have formal Memorandums of Understanding with the EPA's Bay Office, and others manage large tracts of land or major facilities within the watershed.

In addition, a number of ongoing federal activities related to the Bay clean-up would be directly unified under this authorization. While this makes sense by further improving coordination and implementation, additional current spending would be shown in the new authorization total. So although this bill calls for a \$23 million authorization in FY 94, growing to \$28 million in 1999, these are not significant increases over current federal outlays for the varying programs we are trying to bring together. In FY 93, \$19 million was appropriated for the narrowly-defined EPA Bay Office activities alone.

I have included a section-by-section analysis of the bill for your review with my testimony. I would like to highlight a few points:

- o One of the offshoot programs begun in recent years that we are now trying to bring under the Bay Program "umbrella" is a toxics reduction strategy. This effort had its genesis in a Baltimore field hearing held by this Subcommittee in March 1988 to consider toxic pollution in the Chesapeake. This legislation authorizes the EPA to collect data and assist the states in implementing specific actions to reduce toxics use and risks.

- o A second, ongoing effort being unified into the Bay Program is habitat restoration and enhancement. More is known about the Bay ecosystem than perhaps any other major estuary in the world; this foundation provides the best means for testing and evaluating national demonstrations of wetlands development, shoreline forest buffers, or other protections. As coordinator of these studies, the EPA will also ensure that knowledge of the most valuable techniques identified is widely distributed.

- o The EPA continues as the lead Bay Program agency, while a Chesapeake Bay Federal Agencies Committee is established with representatives from 16 federal agencies. Federal facilities and activities within the Bay watershed are required to be consistent with the goals of the Bay Program. And,

- o Given that this is the 10th anniversary of the Program, the bill also directs the EPA to undertake a comprehensive assessment of the entire intergovernmental effort.

The federal role in the Chesapeake Bay Program has been the "glue" holding the federal, state, and local governments' activities together in the long-term battle to reverse the Bay's decline. There are signs of improvement and many small victories:

- o Phosphorus discharges into the Bay, a key component in the nutrient loading problem, have declined by 35% from 1985 levels; in large part due to a ban on phosphates in detergents and the construction of new sewage treatment facilities.

- o Submerged Aquatic Vegetation (SAV), critical habitat for many Bay species, has been making a slow, but steady comeback in the estuary's shallow waters; due to overall improvements in water quality. And,

- o Striped Bass populations in the Bay are up from dangerously low levels in the early 1980s; based on successful management controls.

But the toughest challenges lay ahead and threats to this nation's most productive estuary remain very real -- nutrient loads of nitrogen have increased about 5% since 1985; many key species, including oysters, shad, and white perch, continue to decline; toxics concentrate in the Bay's sediments and waters; and most importantly, population pressures in the Bay's watershed are increasing. The region's population grew 40% in the last 20 years, and whether by runoff from newly planted lawns or air pollution from additional automobiles, that pace threatens to overwhelm restoration efforts.

Though many challenges remain, the EPA Chesapeake Bay Program is a great success and a model for many similar regional efforts. As you shape a Clean Water reauthorization, I would ask you to continue and strengthen our worthy efforts to "Save the Bay". Thank you for your time and attention. I would be happy to answer any questions.

CHESAPEAKE BAY RESTORATION ACT OF 1993  
SECTION-BY-SECTION ANALYSIS

Section 1. SHORT TITLE:

Establishes the title of the bill, the "Chesapeake Bay Restoration Act of 1993."

Section 2. FINDINGS and PURPOSE:

States that the purpose of the Act is to expand and strengthen the cooperative efforts to restore and protect the Chesapeake Bay and to achieve the goals embodied in the Chesapeake Bay Agreement.

Section 3. DEFINITIONS.

Defines the terms, "Administrator," "Chesapeake Bay Agreement," "Chesapeake Bay Program," "Chesapeake Bay Watershed," "Chesapeake Executive Council," and "Person."

Section 4. MANAGEMENT OF CHESAPEAKE BAY PROGRAM:

Provides authority for EPA to continue to lead and coordinate Federal agency participation in the Chesapeake Bay Program, in cooperation with the Chesapeake Executive Council, and to maintain a Chesapeake Bay Liaison Office.

Directs the Chesapeake Bay Liaison Office to provide support and coordinate Federal, state and local efforts in developing strategies and action plans and conducting system-wide monitoring and assessment to improve the water quality and living resources of the Bay.

Establishes a "Chesapeake Bay Federal Agencies Committee" to facilitate collaboration, cooperation and coordination among the agencies and programs of the Federal government in support of the restoration of Chesapeake Bay.

Directs each agency to provide, as part of its annual budget submission to the Congress, a report on the activities being undertaken and planned and the resources being provided to assist in the Bay restoration effort.

Section 5. FEDERAL FACILITIES COMPLIANCE:

Requires each department, agency or instrumentality of the United States which owns or operates facilities within the Bay watershed to perform an annual assessment of their facilities to ensure consistency and compliance with the commitments, goals and objectives of the Bay program. Also requires the agencies to develop a detailed plan, funding mechanism and schedule for addressing or mitigating any potential impacts.

Section 6. CHESAPEAKE BAY WATERSHED, TRIBUTARY AND RIVER BASIN PROGRAM:

Authorizes a comprehensive research, monitoring and data collection program to assess the status and trends in the environmental quality and living resources of the major tributaries, rivers and streams within the Chesapeake Bay watershed and to assist in the development of management plans for such waters. Directs the establishment of a system for accounting for sources of nutrients, and the movements of nutrients, pollutants and sediments through the watershed.

Provides for development of a coordinated Chesapeake Bay watershed land use data base, incorporating resource inventories and analyses in a digital format, to provide information necessary to plan for and manage growth and development and associated impacts on the Bay system.

Encourages local and private sector participation in efforts to protect and restore the rivers and streams in the Bay watershed by establishing a technical assistance and small grants program. Requires that local efforts be coordinated in a watershed-wide strategy.

Section 7. HABITAT RESTORATION AND ENHANCEMENT DEMONSTRATION PROGRAM:

Establishes a habitat restoration and enhancement demonstration program to develop, demonstrate and showcase various low-cost techniques for restoring or enhancing wetlands, forest riparian zones and other types of habitat associated with the Chesapeake Bay and its tributaries.

Directs the Administrator, in cooperation with the Chesapeake Executive Council, to develop a plan for the protection and conservation of wetlands, contiguous riparian forests and other habitats within the Bay watershed, within two years from the date of enactment of the act.

Establishes a central clearinghouse to facilitate access to information about Bay watershed habitat locations, types, acreages, status and trends and restoration and design techniques.

Directs the Administrator to publish and disseminate on a periodic basis a habitat protection and restoration guidance manual describing methods, procedures and processes to guide State and local efforts in the protection and restoration of various types of habitat.

**Section 8. BASIN WIDE TOXICS REDUCTION.**

Authorizes EPA to assist the States in the implementation of specific actions to reduce toxics use and risks throughout the Bay watershed. Directs the Administrator to assist the States in improving data collection on the sources of toxic pollutants entering the Bay and integrating this information into the Chesapeake Bay Program Toxics Loading Inventory. Also directs the Administrator to begin implementing toxics reduction, pollution prevention and management actions, including targeted demonstration projects, to achieve the toxics reduction goals of the Bay Agreement.

**Section 9. STUDY OF CHESAPEAKE BAY PROTECTION PROGRAM.**

Directs EPA to undertake an assessment of the Chesapeake Bay Program and evaluate implementation of the Bay Agreement. Also directs EPA to assess priority needs for the Bay and make recommendations for improved management of the program.

**Section 10. AUTHORIZATIONS.**

Authorizes \$23 million for fiscal year 1994, \$24 million for fiscal year 1995, \$25 million for fiscal year 1996, \$26 million for fiscal year 1997, \$27 million for fiscal year 1998 and \$28 million for fiscal year 1999 to carry out this act.

PETER DEUTSCH  
20th District, Florida

COMMITTEE ON FOREIGN AFFAIRS  
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**Testimony by Representative Peter Deutsch before the  
Public Works Subcommittee on Water Resources and Environment**

April 21, 1993

Over the last ten years, the water pollution in and around the Florida Keys has become a cause of great concern. Water quality is a critical issue for anyone who cares about fishing, diving, and the hundreds of businesses they support. This is an economic reality for the constituents of my district in Monroe County - not just an academic or scientific problem.

There is a strong consensus that water pollution, regardless of its source, is the number one problem threatening the health of our coral reefs, fisheries, and marine resources. This consensus has existed since at least 1988.

Scientists will always debate various aspects of a research problem. That debate, an integral and essential part of science, is raging now between the groups trying to assess the relative importance of the different water quality threats, such as local sewage sources, the Everglades or global climate change. But too much debate will cost the Florida Keys its fisheries and ultimately, its tourist-based economy. In addition, it could cost all of us the only living coral reef in North America.

Florida Bay:

Historically, Florida Bay was an estuary; a place where

seawater was measurably diluted by freshwater. The freshwater flowing into Florida Bay came from the Everglades.

Estuaries are highly diverse and productive ecosystems. Well known estuaries like the Chesapeake Bay and Apalachicola Bay support famous fisheries of blue crabs and oysters. Florida Bay is no different:

- Every pink shrimp caught at the Dry Tortugas, one of Florida's most valuable fisheries, spends at least part of its life in the seagrass beds of Florida Bay.
- Florida Bay used to teem with redfish, tarpon, bonefish, mullet and seatrout.
- Florida Bay used to support huge breeding colonies of roseate spoonbills and other wading birds, all feeding on the crustaceans and fish grow there.

Florida Bay is no longer an estuary. Since 1910, the growing demands of the agricultural industry and urban areas to drain wetlands, divert flows and provide water supplies have progressively cut off the freshwater that flowed into Florida Bay. The result is that more than two-thirds of the freshwater has been diverted, starving the Bay. Because Florida Bay is very shallow and has restricted circulation (it is sandwiched between the mainland and the Keys) natural evaporation concentrates the salt in the water. Today we routinely measure salt concentrations double those of normal seawater: Florida Bay is now a hypersaline lagoon.

This is the fundamental fact: two-thirds of the Bay's freshwater supply has been cut. Not surprisingly, the ecology of

the Bay has been radically altered in ways that can only be characterized as catastrophic: Fisheries have declined and wading bird populations have crashed. The pink shrimp catch at the Dry Tortugas has dropped 60% during the 1980's.

Research and debate must continue over what is happening in Florida Bay, but a fundamental fact cannot be denied:

Two thirds of the freshwater that used to flow into Florida Bay has been cut off and the Bay has been converted from a highly productive estuary to a hypersaline lagoon.

The obvious solution to this problem is to restore freshwater flows into the Bay. Whatever else is happening in the Bay, it won't return to its former productivity as an estuary without freshwater.

#### Florida Bay - Coral Reef Connection

There is now evidence that the problems in Florida Bay may be linked to the decline of the Keys' coral reefs, a decline that has been obvious for years. Water flows from Florida Bay and the Gulf of Mexico through the channels of the Keys, to Hawk Channel and the Straits of Florida. This flow transports Gulf water to the ocean side all year long.

In recent years, a strange phenomenon has occurred to divers on the reefs: the surface water is cool, but there is a layer of warm water on the bottom. Elementary physics states that hot water is less dense than cold water and thus the warm water should be floating on the surface. If the warm water layer is underneath the cool water, it must be more dense.

In the summer of 1992, researchers confirmed what scientists had suspected. Hot, supersalty water from Florida Bay was measured flowing through the Key's channels and sinking under the cooler water in Hawk Channel. This hot, supersalty water then hugged the seabottom and was detected at the coral reefs in the Middle Keys.

If more research confirms that hot, supersalty water from Florida Bay regularly reaches the coral reefs, then we will undoubtedly know that it is a significant factor in the decline of the living corals because corals have limited tolerance for hot water and high salinity. Thus, the alterations that have been made in the Everglades are not only killing the Glades and Florida Bay but also contributing to the destruction of the reefs.

#### Need for Ecosystem Wide Approach

Understanding that the problems in Florida Bay involve an entire ecosystem that stretches from Lake Okechobee to the coral reefs of the Florida Keys is the first step towards finding a solution that does not look strictly at Florida Bay. An ecosystem wide approach will require the participation of all of the Federal and State agencies that have jurisdiction over the various parts of the system.

Section 3 of the Save Florida Bay Bill (H.R. 1564) calls for the establishment of an Interagency Committee made up of representatives from the Department of the Interior, EPA, U.S. Army Corps and National Marine Fisheries to develop a program for Florida Bay restoration. I believe this idea needs to be

expanded. The emergency nature of the problem requires the creation of a high level Interagency Task Force that is charged with the responsibility of developing a plan of action not only for Florida Bay but for the entire system including also the Everglades and the coral reefs.

As the Congressional Representative for Monroe County, I wish to emphasize to the members of this Committee the critical situation that the residents of the Florida Keys are now facing. The economy of the Keys depends on good water quality. The people of Monroe County are now seeing the results of what the lack of fresh water has done to Florida Bay - tens of thousands of acres of dead seagrass and a monstrous algae bloom 100 square miles in diameter and growing, flowing through the bridges connecting the keys and out to the reef tract. They are frightened. There is an unprecedented unanimity among all groups from commercial fisherman, to Chambers of Commerce, to local environmental organizations. Decisive action by the Federal government is needed immediately.

It is time for all of the Federal Agencies involved in this problem to be given the Congressional mandate to take action. Up until now each agency has been dealing with only that small part of the puzzle over which they claim jurisdiction. An interagency task force must come to grips with this problem of jurisdictional lines between agencies and provide the leadership necessary to coordinate corrective actions. It is time to stop abdicating responsibility and get on with the job at hand.

Congressman Don Edwards of California  
Testimony on the Clean Water Act and Wetlands  
Public Works Subcommittee on Water Resources  
April 21, 1993

Thank you for giving me the opportunity to testify today. I would like to commend the Committee for beginning the process of reauthorizing the Clean Water Act by holding these hearings.

The reauthorization of the Clean Water Act presents us with the opportunity to reform the nation's policy on wetlands. Over the past few years, the debate over wetlands and how they should be treated has become polarized in various ways. The issue has been described in terms of jobs vs. the environment, private property rights vs. conservation, or developers vs. environmentalists, implying that one group's gain is another's loss.

It is actually more simple than that; if we continue to destroy our wetlands, then every one of us will lose. We must move past these narrow descriptions of the issue if we are to successfully arrive at a national wetlands policy that is both economically and environmentally sound.

We all understand why it is important to save wetlands. They act as flood control buffers, purify and replenish our water supplies, and control erosion. They are ecological gold mines, producing and sustaining as many life forms and organic materials as rainforests.

So many of the benefits wetlands provide are hard to quantify in traditional economic terms, and this has contributed to their decline. We must recognize that wetlands have socio-economic value in their natural state, and not only in the context of their potential development value. I am encouraged by signs that this concept is becoming more widely understood.

For example, the small and financially strapped community of Carpinteria, California rejected a lucrative offer from developers to build a marina and condominiums on beachfront property and nearby wetlands. Instead, the community will spend \$1.3 million to purchase wetlands in the Carpinteria Salt Marsh to allow for their preservation, so that the long-term social and economic benefits they offer will never be lost.

Because most of the benefits of wetlands are now well-known, everyone agrees that they must be preserved. However, once we move into the arena of how much and which wetlands should be saved, consensus disappears. I believe that for a policy to be fair and effective it must be clear and consistent. It should expand and strengthen the protections to reduce the rate of wetland losses; it must give consideration to the special needs of farmers and small landowners; and it should offer incentives to encourage the protection of privately held wetlands.

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I believe that each of these areas are effectively addressed in H.R. 350, the Wetlands Reform Act, which I introduced early this year. This bill should serve as a blueprint for the nation's wetlands policy because it does the following:

- It amends the Clean Water Act to explicitly include a provision covering the protection of wetlands.
- It expands the number of activities that are covered under the Act to all that are harmful to wetlands, including drainage, ditching and the clearing of vegetation.
- Because no small landowner should have to wait several months for a permit application to be processed, H.R. 350 would establish a "Fast Track Team" to process applications dealing with wetlands of one acre or less within a 60 day period.
- It protects farmers by maintaining the laws that allow special exemptions for agricultural uses of wetlands. It further clarifies that artificial wetlands and abandoned cropland will remain free from regulation.
- It uses the carrot, rather than the stick, approach to encourage private holders of wetlands to preserve their land as wetlands. This is achieved through tax incentives to encourage landowners to donate their property to trusts or limit activities on their land to those that are compatible with wetlands.

We must not be seduced by simplistic approaches to dealing with the complex issue of wetlands. I understand that there is support for a national classification system to divide all wetlands into categories according to their value. In theory, this appears to be a very helpful system, but implementing such a ranking system is full of problems. Determining what functions are of high value and which are low must be based on very subjective criteria. For example, bottomland hardwood swamps are very important for storing floodwaters, and this clearly has value. But is it more important to preserve a swamp than a marine wetland that supports a number of endangered plant and animal species? I fear that high value classifications will tend to be given only to wetlands with low real estate values.

I find it disconcerting that many complaints are raised against giving equal protection to wetlands that are not very wet. There is no good reason to link the value of a wetland to its degree of wetness. First of all, many wetland areas have become degraded because they have been cut off from their natural water supply. In my home state of California, we just emerged from six years of drought that left many wetlands dry for long periods of time, but

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which are now once again holding water and teeming with wildlife.

Many wetlands that are often devoid of standing water are more effective at providing flood control protection. Or in some cases, as with seasonal wetlands, standing water is only present during a limited, but critical, period of time. For instance, prairie potholes provide millions of migrating birds with nesting, feeding and resting areas. In fact, the most shallow and seemingly insignificant of these are often the most critical to the survival of migrating and nesting waterfowl. Because they thaw quickly in the spring and are the first to support the microorganisms that provide fuel for waterfowl, destroying them reduces the survival rate of many of these birds.

Another good example of a program that appears to offer an easy solution to ending the loss of wetlands is mitigation banking. When the policy emerged in 1978, it appeared to offer a means for making up for wetland losses caused by development, so that unlimited development and our wetlands base could be sustained at the same time.

Federal and state studies have shown that efforts to restore or create wetlands have had mixed results at best, largely because we lack the scientific expertise needed to replicate the fragile ecological balance of wetlands. In addition, replacement wetlands are often unsatisfactory because they rarely perform as many or even the same functions as the natural wetlands they replace.

I believe that mitigation, carefully applied, has the potential to help bring about some net gains in our wetlands base, and merits further exploration. My bill, H.R. 350 includes a provision calling for a wetlands restoration pilot program to help us learn more about this subject. But I do not believe that mitigation should ever be used to help free up existing wetlands for uncontrolled development.

I also have serious reservations over broadening the application of the Fifth Amendment takings clause to the limitation of property rights that results from wetland regulations. Certainly, private property rights must be honored, but no one should be allowed to perform activities on their land that cause health and safety problems for others. Because the destruction of a wetland can cause serious flooding or water quality problems for other downstream private property owners, regulatory takings decisions must continue to be considered in the courts on a case-by-case basis.

I believe that we should be concentrating our efforts on encouraging landowners to protect their wetlands voluntarily. That is why I included a section of tax incentives in my bill

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that will make it financially more attractive for land to be donated to qualified conservation organizations, or for activities on wetlands to be limited to compatible uses.

The U.S. Department of Agriculture has taken the lead in establishing worthwhile incentive programs. For example, the Wetlands Reserve Program, which offers direct payments and cost-sharing assistance to farmers who put their wetlands into protected easements and conduct restorations of those lands, showed much promise when it was put into effect last year. Plans to enroll some one million acres of wetlands in the program are certainly achievable, but we must provide adequate funding for it to succeed. We are missing out on a golden opportunity by not fully supporting the Wetlands Reserve Program and encouraging the creation of other similar plans.

We have reached the point where we must adopt a new attitude toward our natural resources if we are to preserve the integrity of our remaining resource base. For years we enjoyed the benefits of an abundance of land, forests, clean water and wetlands and other natural resources, which we were able to exploit with limited negative effects. This attitude of neglect is now straining our remaining resources to their limit. If we want clean and safe water supplies, healthy and diverse species populations, beautiful open spaces, and the economic benefits that are derived from them, then we must act to preserve the wetlands that remain today.

I urge the members of this committee to consider the provisions of my bill, H.R. 350, very carefully as you formulate legislation on the Clean Water Act. This bill offers a means of effectively protecting our dwindling wetlands base in a way that will allow for environmentally and economically sound development.

103D CONGRESS  
1ST SESSION

# H. R. 350

To amend the Federal Water Pollution Control Act to further the protection of wetlands, and for other purposes.

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## IN THE HOUSE OF REPRESENTATIVES

JANUARY 5, 1993

Mr. EDWARDS of California (for himself, Mr. ABERCROMBIE, Mr. BEILENSEN, Mr. BERMAN, Mr. BLACKWELL, Mr. DELLUMS, Mr. EVANS, Mr. GILCHREST, Mr. HAMBURG, Mr. KENNEDY, Mr. LANTOS, Mr. MARKEY, Mr. MILLER of California, Mr. MINETA, Mrs. MINK, Ms. PELOSI, Mr. RAVENEL, Mr. SHAYS, Mr. STARK, Mr. STOKES, Mr. VENTO, Mr. WELDON, and Mr. YATES) introduced the following bill; which was referred jointly to the Committees on Public Works and Transportation, Merchant Marine and Fisheries, and Ways and Means

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## A BILL

To amend the Federal Water Pollution Control Act to further the protection of wetlands, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the "Wetlands Reform Act  
5 of 1993".

1 **TITLE I—AMENDMENTS TO THE**  
2 **FEDERAL WATER POLLUTION**  
3 **CONTROL ACT**

4 **SEC. 101. STATEMENT OF POLICY.**

5 Section 101(a) of the Federal Water Pollution Con-  
6 trol Act (33 U.S.C. 1251(a)) is amended—

7 (1) in paragraph (6) by striking “and” after  
8 the semicolon at the end;

9 (2) in paragraph (7) by striking the period and  
10 inserting “; and”; and

11 (3) by adding at the end the following:

12 “(8) it is the national policy to preserve the  
13 quantity and quality of the Nation’s wetlands and to  
14 restore those wetlands which have been degraded.”.

15 **SEC. 102. EXPANSION OF SCOPE OF PERMIT PROGRAM.**

16 (a) **PROHIBITION OF ACTIVITIES.**—Subsection  
17 301(a) of the Federal Water Pollution Control Act (33  
18 U.S.C. 1311(a)) is amended to read as follows:

19 “SEC. 301. (a) Except as in compliance with this sec-  
20 tion and sections 302, 306, 307, 318, 402, and 404 of  
21 this Act, the discharge of any pollutant or other alteration  
22 of navigable waters by any person shall be unlawful.”.

23 (b) **CERTIFICATION.**—The first sentence of section  
24 401(a) of the Federal Water Pollution Control Act (33  
25 U.S.C. 1341(a)) is amended to read as follows: “Any ap-

1 applicant for a Federal license or permit to conduct any ac-  
2 tivity, including the construction or operation of facilities,  
3 which may result in any discharge into or other alteration  
4 of navigable waters, shall provide the licensing or permit-  
5 ting agency a certification from the State where the activ-  
6 ity occurs or will occur, or, if appropriate, from the inter-  
7 state water pollution control agency having jurisdiction  
8 over the navigable waters where the activity occurs or will  
9 occur, that the activity will comply with the applicable pro-  
10 visions of sections 301, 302, 303, 306, and 307 and will  
11 allow for the protection, achievement, and maintenance of  
12 designated uses included in applicable water quality stand-  
13 ards.”.

14 (c) ISSUANCE OF PERMITS.—Section 404(a) of the  
15 Federal Water Pollution Control Act (33 U.S.C. 1344(a))  
16 is amended by inserting before the period at the end of  
17 the first sentence the following: “, or for other alterations  
18 of navigable waters”.

19 (d) DEFINITION.—Section 502 of the Federal Water  
20 Pollution Control Act (33 U.S.C. 1362) is amended by  
21 adding at the end the following:

22 “(21) The term ‘other alteration’ means drain-  
23 ing, dredging, excavation, channelization, flooding,  
24 clearing of vegetation, driving of pilings or place-  
25 ment of other obstructions, diversion of water, or

1 other activities in navigable waters which impair the  
2 flow, reach, or circulation of surface water, or which  
3 result in a more than minimal change in the hydro-  
4 logic regime, bottom contour, or configuration of  
5 such waters, or in the type, distribution, or diversity  
6 of vegetation, fish, and wildlife that depend on such  
7 waters.”.

8 **SEC. 103. DEFINITION OF FILL MATERIAL.**

9 Section 404(d) of the Federal Water Pollution Con-  
10 trol Act (33 U.S.C. 1344(d)) is amended—

11 (1) by inserting “(1)” after “(d)”; and

12 (2) by adding at the end the following:

13 “(2) The term ‘fill material’ as used in this section  
14 means any pollutant which has the effect of replacing por-  
15 tions of navigable waters or changing the bottom elevation  
16 or configuration of a water body.”.

17 **SEC. 104. PERMIT REVIEW BY RESOURCE AGENCIES.**

18 (a) REVIEW BY SECRETARY OF INTERIOR AND SEC-  
19 RETARY OF COMMERCE.—Section 404(m) of the Federal  
20 Water Pollution Control Act (33 U.S.C. 1344(m)) is  
21 amended by striking “Secretary of the Interior, acting  
22 through the Director of the United States Fish and Wild-  
23 life Service” each place it appears and inserting “Sec-  
24 retary of the Interior, acting through the Director of the  
25 United States Fish and Wildlife Service, and the Secretary

1 of Commerce, acting through the Assistant Administrator  
2 of the National Marine Fisheries Service”.

3 (b) RESPONSE IN WRITING.—Section 404(m) of the  
4 Federal Water Pollution Control Act (33 U.S.C. 1344(m))  
5 is amended by adding at the end the following: “The Sec-  
6 retary shall adopt the recommendations made in the com-  
7 ments or respond in writing to the Secretary of the Inte-  
8 rior or the Secretary of Commerce, as appropriate, de-  
9 scribing his or her reasons for not adopting the rec-  
10 ommendations and explaining how his or her determina-  
11 tion is consistent with the goals and purposes of this Act  
12 and the guidelines developed under section 404(b)(1).”.

13 **SEC. 105. CLARIFICATION OF GENERAL PERMIT PROGRAM.**

14 Section 404(e)(1) of the Federal Water Pollution  
15 Control Act (33 U.S.C. 1344(e)(1)) is amended to read  
16 as follows:

17 “(e)(1)(A) In carrying out the functions of the Sec-  
18 retary under this section relating to the discharge of  
19 dredged or fill material or other alteration of navigable  
20 waters, the Secretary may, after notice and opportunity  
21 for public hearing, and with the concurrence of the Admin-  
22 istrator, issue general permits on a State, multi-State, or  
23 nationwide basis for any narrowly defined category of ac-  
24 tivities involving discharges of dredged or fill material or  
25 other alterations of navigable waters if the Secretary de-

1 terminates that the activities in such category are similar  
2 in nature, will cause only minimal adverse environmental  
3 effects when performed separately, and will have only  
4 minimal cumulative adverse effect on the environment.  
5 Any general permit issued under this subsection shall be  
6 consistent with the goals and purposes of this Act, shall  
7 be based on the guidelines described in subsection (b)(1),  
8 shall set forth the requirements and standards which shall  
9 apply to any activity authorized by such general permit,  
10 and shall include adequate measures to enable the Sec-  
11 retary to be apprised of and to monitor activities con-  
12 ducted pursuant to such general permit.

13       “(B) Before any activity is authorized under a gen-  
14 eral permit for which predischARGE notification is required  
15 pursuant to regulations, notice and 30 days opportunity  
16 to comment shall be given by the Secretary to the Admin-  
17 istrator, the Secretary of the Interior, the Secretary of  
18 Commerce, State agencies responsible for water quality,  
19 fish, and wildlife resources which may be affected by such  
20 activity, and to the public.

21       “(C) No activity shall be authorized under a general  
22 permit within a State that has denied or revoked water  
23 quality certification pursuant to section 401 for such ac-  
24 tivities under that general permit.

1       “(D) Each general permit shall be reviewed by the  
2 Secretary biennially, taking into account the information  
3 contained in reports required by section 404(u), and shall,  
4 after notice and hearing, be revised or revoked as nec-  
5 essary to avoid or minimize cumulative adverse effects on  
6 navigable waters.”.

7 **SEC. 106. REPORTS ON EFFECTS OF PERMIT PROGRAM ON**  
8 **WETLANDS.**

9       Section 404 of the Federal Water Pollution Control  
10 Act (33 U.S.C. 1344) is amended by adding at the end  
11 the following:

12       “(u) REPORTS ON PERMIT PROGRAM.—

13               “(1) EFFECTS OF PERMITTED ACTIVITIES.—

14                       “(A) IN GENERAL.—The Secretary, in con-  
15 sultation with the Administrator, the Secretary  
16 of the Interior, and those States which have a  
17 permit program approved under subsection  
18 (h)(2), shall report biennially to the Congress  
19 on the effects on navigable waters of activities  
20 conducted under permits issued pursuant to  
21 this section, including general permits. Such re-  
22 ports shall contain estimates of the acreage and  
23 functions of navigable waters affected by each  
24 general permit, in order to determine whether  
25 the individual and cumulative adverse environ-

1           mental effects of activities authorized by each  
2           general permit are minimal.

3           “(B) MONITORING.—For purposes of pre-  
4           paring reports under this subsection, the Sec-  
5           retary, the Administrator, and the Secretary of  
6           the Interior shall jointly monitor the achieve-  
7           ment of the policy stated in section 101(a)(8)  
8           under permits issued under this section.

9           “(C) CONTENT OF REPORTS.—Reports  
10          under this subsection shall include consideration  
11          of relevant information contained in individual  
12          and general permit applications, compliance  
13          monitoring records and maps, and any other  
14          relevant information.

15          “(2) EFFECTS OF COMPENSATORY MITIGA-  
16          TION.—The Secretary, in consultation with the Ad-  
17          ministrator, the Secretary of the Interior, and those  
18          States which have a permit program approved under  
19          subsection (h)(2), shall report biennially to the Con-  
20          gress on the effects on navigable waters of compen-  
21          satory mitigation required under permits issued  
22          under this section, including general permits. Such  
23          reports shall contain—

1                   “(A) estimates of the number of permits  
2                   for which compensatory mitigation is required;  
3                   and

4                   “(B) a description of—

5                   “(i) the type and extent of compen-  
6                   satory mitigation projects required,

7                   “(ii) the degree of compliance with  
8                   those compensatory mitigation require-  
9                   ments,

10                   “(iii) the extent to which such com-  
11                   pensatory mitigation requirements have  
12                   been successful in restoring the intended  
13                   range of functions and values, and

14                   “(iv) the extent to which monitoring  
15                   and enforcement of compensatory mitiga-  
16                   tion requirements have been conducted by  
17                   the agencies.”.

18 **SEC. 107. EXPEDITED PERMIT REVIEW.**

19                   Section 404(q) of the Federal Water Pollution Con-  
20                   trol Act (33 U.S.C. 1344(q)) is amended to read as fol-  
21                   lows:

22                   “(q)(1) **REDUCTION IN PAPERWORK AND DELAYS.**—

23                   Not later than the 180th day after the date of the enact-  
24                   ment of this subsection, the Secretary shall enter into  
25                   agreements with the Administrator, the Secretaries of the

1 Departments of Agriculture, Commerce, and Interior, and  
2 the heads of other appropriate Federal agencies to mini-  
3 mize, to the maximum extent practicable, duplication,  
4 needless paperwork, and delays in the issuance of permits  
5 under this section.

6 “(2) FAST TRACK FOR MINOR PERMITS.—

7 “(A) Not later than 6 months after the date of  
8 enactment of this subsection, the Secretary shall es-  
9 tablish in each district office a special Fast Track  
10 team to expedite the review and processing of minor  
11 permits. Each team shall consist of not more than  
12 25 percent of all personnel assigned to review permit  
13 applications under this section, and shall not be as-  
14 signed to review or process any permits other than  
15 minor permits, unless final decisions have been  
16 reached with respect to all such minor permits with-  
17 in 60 days after the notice of application for such  
18 permits is published pursuant to subsection (a).

19 “(B) The District Engineer in each district of-  
20 fice shall review the operations of the Fast Track  
21 team in that office every 6 months. If final decisions  
22 on a significant percentage of minor permits have  
23 not been reached within 60 days after the notice of  
24 application for such permits is published pursuant to

1 subsection (a), additional personnel shall be assigned  
2 to the Fast Track team.

3 “(C) For purposes of this subsection, a minor  
4 permit is a permit for an activity that would disturb  
5 no more than 1 acre of wetlands, is being performed  
6 by a private individual or a business that employs no  
7 more than 10 people, and is not part of a larger  
8 common plan or proposal that would disturb addi-  
9 tional acreage, except that a permit shall not be a  
10 minor permit if—

11 “(i) the Secretary is required under the  
12 National Environmental Policy Act of 1969 to  
13 issue an environmental impact statement;

14 “(ii) the permit involves an activity that  
15 may affect any species that is listed as an en-  
16 dangered species or threatened species under  
17 the Endangered Species Act of 1973, or the  
18 habitat of such a species; or

19 “(iii) the Secretary, the Administrator, or  
20 a Federal department or agency referred to in  
21 paragraph (1) requests that the permit applica-  
22 tion receive additional review.”.

1 **SEC. 108. AVOIDANCE AND MINIMIZATION OF ADVERSE EF-**  
2 **FECTS.**

3 Section 404 of the Federal Water Pollution Control  
4 Act (33 U.S.C. 1344), as amended by this Act, is further  
5 amended by adding at the end the following:

6 “(v) No individual or general permit shall be issued  
7 for an activity pursuant to this section if there is a prac-  
8 ticable alternative to the proposed activity which would  
9 have less adverse environmental impact on navigable  
10 waters.”.

11 **SEC. 109. EXEMPTIONS FOR AGRICULTURE AND OTHER AC-**  
12 **TIVITIES.**

13 (a) IN GENERAL.—Section 404(f) of the Federal  
14 Water Pollution Control Act (33 U.S.C. 1344) is amended  
15 to read as follows:

16 “(f)(1) Except as provided in paragraph (2), the dis-  
17 charge of dredge or fill material in or other alterations  
18 of navigable waters—

19 “(A) from normal farming, silviculture, and  
20 ranching activities, such as plowing, seeding, cul-  
21 tivating, minor drainage, harvesting for the produc-  
22 tion of food, fiber, and forest products, and upland  
23 soil and water conservation practices;

24 “(B) for the purpose of maintenance, including  
25 emergency reconstruction of recently damaged parts,  
26 of currently serviceable structures such as dikes,

1 dams, levees, groins, riprap, breakwaters, causeways,  
2 bridge abutments or approaches, and transportation  
3 structures, to their current or most recent configura-  
4 tion;

5 “(C) for the purpose of construction or mainte-  
6 nance of farm or stock ponds or irrigation ditches,  
7 or the maintenance of drainage ditches;

8 “(D) for the purpose of construction of tem-  
9 porary sedimentation basins on a construction site  
10 which does not involve placement of fill material into  
11 navigable waters;

12 “(E) for the purpose of construction or mainte-  
13 nance of farm roads or forest roads, or temporary  
14 roads for moving mining equipment, where such  
15 roads are constructed and maintained, in accordance  
16 with best management practices, to assure that flow  
17 and circulation patterns and chemical and biological  
18 characteristics of the navigable waters are not im-  
19 paired, that the reach of the navigable waters is not  
20 reduced, and that any adverse effect on the aquatic  
21 environment will otherwise be minimized; or

22 “(F) resulting from any activity with respect to  
23 which a State has an approved program under sec-  
24 tion 208(b)(4) which meets the requirements of sub-  
25 paragraphs (B) and (C) of that section;

1 is not prohibited by or otherwise subject to regulation  
2 under this section or section 301(a) or 402 (except for  
3 effluent standards or prohibitions under section 307).

4       “(2) Any discharge of dredged or fill material into,  
5 or other alteration of, the navigable waters incidental to  
6 any activity having as its purpose bringing an area of the  
7 navigable waters into a use to which it was not previously  
8 subject, where the flow or circulation of navigable waters  
9 may be impaired or the reach of such waters be reduced,  
10 shall be required to have a permit under this section.

11       “(3) An activity which does not result in the dis-  
12 charge of dredge or fill material into, or other alterations  
13 of, the navigable waters shall not be prohibited or other-  
14 wise subject to regulation under this section.

15       “(4)(A) For purposes of this section, the following  
16 shall not be considered to be navigable waters:

17               “(i) Nontidal drainage and irrigation ditches  
18 excavated in uplands.

19               “(ii) Artificially irrigated areas which would re-  
20 vert to uplands if the irrigation ceased.

21               “(iii) Artificial lakes or ponds created by exca-  
22 vating or diking uplands to collect and retain water,  
23 and which are used exclusively for stock watering, ir-  
24 rigation, or rice growing.

1           “(iv) Artificial reflecting or swimming pools or  
2 other small ornamental bodies of water created by  
3 excavating or diking uplands to retain water for pri-  
4 marily aesthetic reasons.

5           “(v) Waterfilled depressions created in uplands  
6 incidental to construction activity and pits excavated  
7 in uplands for the purpose of obtaining fill, sand, or  
8 grave<sup>1</sup>, unless and until the construction or exca-  
9 vation operation is abandoned and the resulting  
10 body of water meets the definition of waters of the  
11 United States.

12          “(B) Subparagraph (A) shall not apply to a particu-  
13 lar water body unless the person desiring to conduct an  
14 activity in that water body is able to demonstrate that the  
15 water body qualifies under subparagraph (A) for exemp-  
16 tion from regulation under this section.

17          “(5) Except as provided in paragraph (2), normal  
18 plowing, seeding, cultivating, minor drainage for crop pro-  
19 duction, or harvesting shall not be prohibited or otherwise  
20 subject to regulation under this section in waters of the  
21 United States which have been maintained as cropland at  
22 least one growing season in the 5-years prior to such plow-  
23 ing, seeding, cultivating, minor drainage, or harvesting.”.

1 **SEC. 110. CITIZEN SUITS AMENDMENTS.**

2 Section 505 of the Federal Water Pollution Control  
3 Act (33 U.S.C. 1365) is amended—

4 (1) in subsection (f) by striking “or (7)” and  
5 inserting the following: “(7) a permit or condition  
6 thereof issued under section 404, which has been, or  
7 is, in effect under this Act (including a requirement  
8 applicable by reason of section 313); or (8)”;

9 (2) in subsection (a)(1)(B) by inserting after  
10 “Administrator”, the following: “, the Secretary of  
11 the Army”;

12 (3) in subsection (a) in the matter following  
13 paragraph (2) by inserting after “under section  
14 309(d)” the following: “and section 404(s)”;

15 (4) in subsection (b)(1)(A) by striking “and  
16 (iii)” and inserting the following: “(iii) to the Sec-  
17 retary of the Army (if the alleged violation is under  
18 section 404); and (iv)”;

19 (5) in subsection (b)(1)(B) by inserting after  
20 “if the Administrator” the following: “, the Sec-  
21 retary of the Army,”;

22 (6) in subsection (c)(2) by inserting after “the  
23 Administrator” the following: “(and the Secretary of  
24 the Army, if the alleged violation is under section  
25 404)”;

## 17

1 (7) in subsection (c)(3) by inserting after "At-  
2 torney General" each place it appears the following:  
3 " , the Secretary of the Army (if the alleged violation  
4 is under section 404 of this Act),";

5 (8) in subsection (e) by inserting after "Admin-  
6 istrator" the following: " , the Secretary of the  
7 Army,";

8 (9) in subsection (h) by inserting after "Admin-  
9 istrator" each place it appears the following: "or the  
10 Secretary of the Army";

11 (10) in paragraph (2) of subsection (a) and in  
12 the matter following that paragraph by inserting  
13 after "Administrator" each place it appears the fol-  
14 lowing: "or the Secretary of the Army"; and

15 (11) in subsection (b)(2) by inserting after  
16 "Administrator" the following: "or the Secretary of  
17 the Army".

18 **TITLE II—IMPROVED WETLANDS**  
19 **PERMITTING; REVISIONS TO**  
20 **WETLANDS DELINEATION**  
21 **PROCEDURES**

22 **SEC. 201. IMPROVEMENT OF ADMINISTRATION OF WET-**  
23 **LANDS PERMITTING.**

24 (a) NEEDS ANALYSIS.—

1           (1) IN GENERAL.—Not later than 90 days after  
2           the date of the enactment of this Act, the Comptrol-  
3           ler General of the United States shall submit to the  
4           Congress an analysis of the needs of the Corps of  
5           Engineers and the Environmental Protection Agency  
6           for additional personnel, administrative resources,  
7           and funding to improve implementation of section  
8           404 of the Federal Water Pollution Control Act (33  
9           U.S.C. 1344).

10           (2) CONTENTS.—The analysis submitted under  
11           this subsection shall—

12                   (A) give particular emphasis to the needs  
13                   of the Corps of Engineers and the Environ-  
14                   mental Protection Agency with respect to im-  
15                   proving and expediting wetlands delineation and  
16                   wetlands permitting generally;

17                   (B) include recommendations regarding  
18                   additional appropriations necessary for that im-  
19                   provement and expedition; and

20                   (C) identify the Corps of Engineers district  
21                   offices and Environmental Protection Agency  
22                   regions that have the greatest need for those  
23                   additional appropriations.

24           (b) FUNDING FOR TRAINING AND CERTIFICATION  
25           PROGRAM FOR WETLANDS DELINEATORS.—Of amounts

1 appropriated for each fiscal year beginning after the date  
2 of the enactment of this Act for administration of section  
3 404 of the Federal Water Pollution Control Act (33  
4 U.S.C. 1344) by the Corps of Engineers, the Secretary  
5 of the Army (hereinafter in this title referred to as the  
6 "Secretary") shall use such amounts as are necessary to  
7 carry out the program for training and certification of in-  
8 dividuals as wetlands delineators authorized by section  
9 307(e) of the Water Resources Development Act of 1990  
10 (Public Law 101-640).

11 (c) FUNDING FOR IMPROVEMENT OF SECTION 404  
12 EDUCATION AND OUTREACH PROGRAMS.—Of amounts  
13 appropriated for each fiscal year beginning after the date  
14 of the enactment of this Act for administration of section  
15 404 of the Federal Water Pollution Control Act (33  
16 U.S.C. 1344) by the Corps of Engineers or the Environ-  
17 mental Protection Agency, the Secretary or the Adminis-  
18 trator of the Environmental Protection Agency, respec-  
19 tively, shall use such amounts as are necessary to improve  
20 existing education and outreach programs of the Corps of  
21 Engineers or the Environmental Protection Agency re-  
22 garding requirements of that section.

23 (d) FUNDING FOR EXPEDITING AND COMPLETING  
24 WETLANDS MAPPING.—

1           (1) COMPLETION OF MAPPING.—Of amounts  
2           appropriated for each fiscal year beginning after the  
3           date of the enactment of this Act for programs of  
4           the United States Fish and Wildlife Service, the Di-  
5           rector of the United States Fish and Wildlife Service  
6           shall use—

7                   (A) such amounts as are necessary to com-  
8                   plete the existing wetland mapping program of  
9                   the Service by not later than 1 year after the  
10                  date of the enactment of this Act;

11                  (B) such amounts (in addition to amounts  
12                  used pursuant to subparagraphs (A) and (C))  
13                  as are necessary to conduct mapping under that  
14                  program in areas where there is the potential  
15                  for delineating particularly large areas of wet-  
16                  lands; and

17                  (C) such amounts as may be necessary (in  
18                  addition to amounts used pursuant to subpara-  
19                  graphs (A) and (B)) to delineate wetlands  
20                  under that program in watersheds and  
21                  ecosystems for which the need for delineation is  
22                  particularly acute, such as where wetlands are  
23                  particularly difficult to identify or where pres-  
24                  sure for development of wetlands is intense, by

1 as soon as practicable after the date of the en-  
2 actment of this Act.

3 (2) UPDATING MAPS.—The Director of the  
4 United States Fish and Wildlife Service shall update  
5 each map prepared under the existing wetlands map-  
6 ping program at least once—

7 (A) in the 15-year period beginning on the  
8 date of the completion of the map, and

9 (B) in every 15-year period thereafter.

10 (e) FUNDING TO ASSIST SMALL LANDOWNERS WITH  
11 WETLANDS DELINEATION.—Of amounts appropriated for  
12 each fiscal year beginning after the date of enactment of  
13 this Act for administration of section 404 of the Federal  
14 Water Pollution Control Act (33 U.S.C. 1344), the Sec-  
15 retary of the Army shall use such amounts as are nec-  
16 essary, but not to exceed \$5,000,000, to assist landowners  
17 who lack the financial capacity to do wetlands delineations  
18 needed to apply for permits under that section. The Sec-  
19 retary may provide such assistance either by providing  
20 technical assistance or by performing delineations. Within  
21 180 days after the date of the enactment of this Act the  
22 Secretary shall issue regulations defining which land-  
23 owners are eligible for such assistance.

1 **SEC. 202. REVISIONS TO FEDERAL WETLANDS DELINEA-**  
2 **TION PROCEDURES.**

3 After the date of the enactment of this Act, no revi-  
4 sions to or clarifications of any Federal manual for identi-  
5 fying and delineating jurisdictional wetlands shall be  
6 adopted, and no guidance or regulations related to the def-  
7 inition, delineation, or identification of wetlands shall be  
8 issued, until the National Academy of Sciences has com-  
9 pleted the study of wetlands authorized by Public Law  
10 102-389. All subsequent revisions to any Federal manual  
11 for the identification and delineation of wetlands shall take  
12 into consideration the scientific and technical rec-  
13 ommendations of the National Academy of Sciences.

14 **TITLE III—WETLANDS**  
15 **RESTORATION PROGRAM**

16 **SEC. 301. WETLANDS RESTORATION PILOT PROGRAM.**

17 The Secretary, in cooperation with the Administrator,  
18 the Director of the United States Fish and Wildlife Serv-  
19 ice, and appropriate State and local government entities,  
20 shall initiate, with opportunity for public notice and com-  
21 ment, a pilot program of wetlands restoration. The pur-  
22 poses of the pilot program are—

23 (1) to identify areas where the restoration of  
24 significant wetland acreage and functions, including  
25 fish and wildlife habitat, water quality protection,  
26 and natural hydrologic functions, could contribute

1 substantially to preserving the quantity and quality  
2 of the Nation's wetlands;

3 (2) to test methods and techniques for wetlands  
4 restoration in such areas, and in areas previously  
5 identified as suitable for restoration; and

6 (3) to develop a means of evaluating the success  
7 over the long term of such wetlands restoration ef-  
8 forts.

9 **SEC. 302. SENSE OF CONGRESS CONCERNING WETLANDS**  
10 **RESERVE PROGRAM.**

11 It is the sense of Congress that the Wetlands Reserve  
12 Program authorized by the Food, Agriculture, Conserva-  
13 tion and Trade Act of 1990 is an effective wetlands con-  
14 servation and restoration program which has the potential  
15 to benefit agriculturalists, rural communities, and the Na-  
16 tion's wetlands resource base. Further, it is the sense of  
17 Congress that the Wetlands Reserve Program should be  
18 fully funded to achieve its acreage enrollment goals, and  
19 should be actively promoted by the Department of Agri-  
20 culture to achieve full subscription.

21 **TITLE IV—TAX INCENTIVES FOR**  
22 **WETLANDS CONSERVATION**

23 **SEC. 401. WETLANDS STEWARDSHIP TRUSTS.**

24 (a) DESIGNATION.—The Secretary of the Interior  
25 shall designate a nonprofit organization to be a Wetlands

1 Stewardship Trust for purposes of this section if the  
2 organization—

3           (1) includes among its primary purposes the ac-  
4           quisition of private interests in wetlands, former  
5           wetlands, and associated real property for the pur-  
6           pose of restoring or preserving such property, and

7           (2) meets such other requirements as may be  
8           established in regulations issued under subsection  
9           (c).

10          (b) APPLICATION.—A nonprofit organization seeking  
11 to be designated a Wetlands Stewardship Trust for pur-  
12 poses of this section may submit to the Secretary of the  
13 Interior an application for that designation, in accordance  
14 with procedures established in regulations issued under  
15 subsection (c).

16          (c) REGULATIONS.—Not later than 180 days after  
17 the date of the enactment of this Act, the Secretary of  
18 the Interior, acting through the Director of the United  
19 States Fish and Wildlife Service, in consultation with the  
20 Secretary of the Army, acting through the Corps of Engi-  
21 neers, and the Administrator of the Environmental Pro-  
22 tection Agency shall issue regulations establishing require-  
23 ments for being designated a Wetlands Stewardship Trust  
24 under this section.

1 **SEC. 402. TAX TREATMENT OF DONATIONS OF WETLANDS.**

2 (a) **TAX TREATMENT.**—Subsection (e) of section 170  
3 of the Internal Revenue Code of 1986 (relating to chari-  
4 table, etc., contributions and gifts) is amended by adding  
5 at the end thereof the following new paragraph:

6 “(6) **SPECIAL RULES FOR CONTRIBUTIONS OF**  
7 **WETLANDS.**—

8 “(A) **IN GENERAL.**—In the case of a chari-  
9 table contribution by a taxpayer of wetlands (or  
10 any interest therein) to a Wetlands Stewardship  
11 Trust or to a governmental unit referred to in  
12 subsection (c)(1) for the purpose of preserving  
13 the property in its natural state—

14 “(i) **50 PERCENT LIMITATION TO**  
15 **APPLY TO INDIVIDUALS.**—Such a contribu-  
16 tion by an individual shall be treated for  
17 purposes of this section as described in  
18 subsection (b)(1)(A).

19 “(ii) **20-YEAR CARRYFORWARD.**—Sub-  
20 section (d)(1) shall be applied by substitut-  
21 ing ‘20 years’ for ‘5 years’ each place it  
22 appears and with appropriate adjustments  
23 in the application of subparagraphs (A)(ii)  
24 and (B)(ii) thereof.

25 “(iii) **EXTENSION OF PERIOD FOR EX-**  
26 **CHANGES.**—If such contribution is made

1 as part of an exchange to which section  
2 1031 applies, paragraph (3) of section  
3 1031(a) shall be treated as met if the  
4 property to be received in the exchange is  
5 received by the taxpayer not later than the  
6 date which is 3 years after the date on  
7 which the taxpayer transfers the property  
8 relinquished in the exchange.

9 “(B) PROPERTY MUST BE PROTECTED IN  
10 PERPETUITY.—A contribution shall not be  
11 treated as for the purpose referred to in sub-  
12 paragraph (A) unless such purpose is protected  
13 in perpetuity.

14 “(C) CERTAIN PROPERTY INELIGIBLE.—  
15 Subparagraph (A) shall not apply to any con-  
16 tribution of property if—

17 “(i) the property is required (as of the  
18 date of the contribution) to be preserved in  
19 perpetuity in its natural state other than  
20 by reason of the terms of contribution, or

21 “(ii) the property is required to be re-  
22 stored or preserved as compensatory miti-  
23 gation as a condition of a permit issued  
24 under section 404 of the Federal Water  
25 Pollution Control Act (33 U.S.C. 1344).

1                   “(D) UNUSED DEDUCTION CARRYOVER AL-  
2                   LOWED ON TAXPAYER’S LAST RETURN.—In the  
3                   case of an individual, if—

4                   “(i) the taxpayer dies before the close  
5                   of the last taxable year for which a deduc-  
6                   tion for a contribution to which subpara-  
7                   graph (A) applies could have been allowed  
8                   under subsection (d)(1), and

9                   “(ii) any portion of the deduction for  
10                  such contribution has not been allowed for  
11                  any taxable year before the taxable year in  
12                  which such death occurs,

13                  then such portion shall be allowed as a deduc-  
14                  tion under subsection (a) for the taxable year in  
15                  which such death occurs without regard to sub-  
16                  section (b), or the unused portion may be used  
17                  against the estate taxes of the taxpayer.

18                  “(E) DEFINITIONS.—For purposes of this  
19                  paragraph—

20                  “(i) Wetlands.—The term ‘wetlands’  
21                  means any area that is inundated or satu-  
22                  rated by surface or groundwater at a fre-  
23                  quency and duration sufficient to support,  
24                  and which under normal circumstances  
25                  does support, a prevalence of vegetation

1 typically adapted for life in saturated soil  
2 conditions.

3 “(ii) WETLANDS STEWARDSHIP  
4 TRUST.—The term ‘Wetlands Stewardship  
5 Trust’ means any entity designated by the  
6 Secretary of the Interior under section 401  
7 of the Wetlands Reform Act of 1993.”

8 (b) EFFECTIVE DATE.—The amendment made by  
9 this section shall apply to contributions and gifts made  
10 after the date of the enactment of this Act in taxable years  
11 ending after such date.

12 **SEC. 403. EXCLUSION FROM GROSS INCOME FOR AMOUNTS**  
13 **RECEIVED FROM COMPATIBLE USES OF WET-**  
14 **LANDS.**

15 (a) IN GENERAL.—Part III of subchapter B of chap-  
16 ter 1 of the Internal Revenue Code of 1986 (relating to  
17 items specifically excluded from gross income) is amended  
18 by redesignating section 137 as section 138 and by insert-  
19 ing after section 136 the following new section:

20 **“SEC. 137. INCOME FROM COMPATIBLE USES OF WET-**  
21 **LANDS.**

22 “(a) GENERAL RULE.—Gross income shall not in-  
23 clude any amount received by the owner of wetlands for  
24 allowing any person to use such wetlands in a compatible  
25 use.

1       “(b) DEFINITIONS.—For purposes of this section—

2               “(1) WETLANDS.—The terms ‘wetlands’ has  
3       the meaning given such term by section  
4       170(e)(6)(E)(i).

5               “(2) COMPATIBLE USE.—The term ‘compatible  
6       use’ has the meaning given such term in the regula-  
7       tions prescribed under the following sentence. The  
8       Secretary of the Interior, acting through the Direc-  
9       tor of the Fish and Wildlife Service, shall prescribe  
10       regulations identifying those activities which con-  
11       stitute compatible uses for purposes of this section,  
12       including any pertinent restrictions on such activi-  
13       ties. Such activities may include fishing, hunting,  
14       and occasional and prudent managed haying, if  
15       deemed appropriate by the Secretary of the Interior,  
16       but shall not include any activity which degrades the  
17       functions or values of wetlands.”

18       (b) CLERICAL AMENDMENT.—The table of sections  
19       for such part III is amended by striking the last item and  
20       inserting the following new items:

      “Sec. 137. Income from compatible uses of wetlands.

      “Sec. 138. Cross references to other Acts.”

21       (c) EFFECTIVE DATE.—The amendments made by  
22       this section shall apply to amounts received after the date  
23       of the enactment of this Act in taxable years ending after  
24       such date.

○

Congresswoman Marcy Kaptur  
Summary of Recommendations  
Clean Water Act Reauthorization

**GREAT LAKES**

- 1) A second phase of the Assessment and Remediation of Contaminated Sediments (ARCS) program. This program demonstrates sediment remediation technologies on the pilot scale at five Great Lakes Areas of Concern. A second phase should authorize more sediment treatment technology demonstrations at the pilot and full scale. Program should also include some form of technical and financial assistance and outreach to communities which have contaminated harbors.
- 2) Requirement of the Corps of Engineers to work through the Environmental Protection Agency to develop Tributary Transport Models of soil run-off for each major river system feeding a Great Lakes harbor. This will identify high priority watersheds for intensive non-point pollution abatement work.
- 3) Continued and expanded incentives to encourage the agricultural community to practice conservation tillage, and reduce its use of fertilizers and pesticides.

**WASTEWATER TREATMENT/COMBINED SEWER OVERFLOWS (CSOs)**

- 4) Enhance financial assistance for small communities sewerage facilities.
- 5) CSO problems should be addressed in a manner that employs site-specific, flexible standards that balance environmental and economic considerations.

**PLANNING AND COORDINATION**

- 6) Preserve the Planning Set-Aside from the Revolving Loan Fund Capitalization Grants (Section 604(b)) The mandatory pass-through of funds to regional planning agencies should remain in place at a reasonable level of funding.
- 7) Establish a similar Planning Set-Aside from Non-Point Source (Section 319) funds. These Planning funds should also have a mandatory pass-through to regional planning agencies at a reasonable level of funding.

## Testimony of Congresswoman Marcy Kaptur

## Clean Water Act Reauthorization

## Subcommittee on Water Resources

April 21, 1993

Thank you, Mr. Chairman, and members of the Subcommittee, for the opportunity to testify before the Subcommittee today. The Clean Water Act is a critical piece of legislation for the Great Lakes region. Twenty years ago, when the Clean Water Act was first enacted, Lake Erie's condition was so bad that it was given up for dead. The Clean Water Act with its sewage treatment standards and grants, and water quality standards and permit requirements effectively resuscitated this irreplaceable resource. But Lake Erie, as the rest of our nation's large fresh water bodies, is still far from healthy and self-sustaining. We have not met the goal of "fishable and swimmable" waters in many areas. More work needs to be done.

In addition, we have learned much along the way about environmental protection, and what works and what does not work. That is why I am particularly pleased that we will be working on reauthorizing the Clean Water Act in this Congress. From my position on the subcommittee that determines the appropriations for the Environmental Protection Agency (EPA), I am aware of how limited our resources are for tackling this huge problem. However, we cannot afford to have anything less than the most up-to-date and effective water quality protection in our country.

Today, I would like to draw your attention to the specific challenges of the Great Lakes as well as provide some examples of clean water needs in my district and provide some options for change.

The Great Lakes comprise the world's largest fresh water system, and contain 95% of this nation's fresh surface water. That's a big resource and a big responsibility. The Great Lakes are also fragile. They sustain extensive use by manufacturers, the maritime industry and recreational users. The Great Lakes are the repository for water that runs-off a huge area of land; the basin as a whole is roughly the size of the former West Germany. In addition, the Great Lakes system has an exceedingly slow flush rate. That is, it takes centuries for water to move from Lake Superior through the system to the St. Lawrence River and ultimately to the Atlantic Ocean. The flushing rate of Lake Superior alone is some 200 years. Lake

Michigan's retention time is 100 years. Lakes Erie's rate is shorter because it is so shallow, at 3 years.

I would like to present some priority areas that need to be addressed in the Clean Water Act to continue the process of restoring and protecting the waters of the Great Lakes and specifically designate Great Lakes initiatives in the Clean Water Act.

#### WASTEWATER TREATMENT/COMBINED SEWER OVERFLOWS (CSOs)

We have not heard the last of sewage as an environmental issue. Many communities, if not most, in the Midwest, and specifically in Northwest Ohio, have combined sewers. These sewers overflow whenever it rains, spewing raw sewage into our rivers and streams. Villages and small cities in my district are separating their sewers, one small piece at a time, because that is all they can afford. Most towns will need ten or twenty years to raise the money to separate all sewers.

In central Toledo the problem is acute. Toledo has already spent some \$47 million on combined sewer abatement for part of downtown and one major stream. About two-thirds of the combined sewers are left, to say nothing of a century's worth of sludge on the bottom of the streams. If we are going to see "fishable and swimmable" streams in the inner cities in our lifetime, the federal government must provide both leadership and funding.

Small communities have special problems. Many small towns have no sewage treatment system at all. EPA and the local health departments have been ordering these communities to build sewers, and with good reason. However, how can a town of 200 or 300 families afford \$2 million or more for a treatment system? There are agencies that can help, but there are gaping holes in the safety net. My district has several examples, one of which I will mention briefly to illustrate the problem.

The area includes two Toledo suburbs, the City of Oregon and the Village of Harbor View, which need sewers. There is no way the residents, with median household incomes of around \$13,000, can afford the sewers. The Farmers' Home Administration is helping Harbor View, because it is a village. Across the street in the City of Oregon, residents' incomes are not much higher, but Farmers' Home cannot help, because it is a city. EPA has offered them a loan at 2% interest. It was not enough, considering 250 families were being asked to pay off a \$3 million debt. Previously, EPA construction grants paid 55% to 75% of the cost of these type of projects.

Even moderate income villages fall through the hole in the safety net. It is more the rule than the exception, that small towns are too poor to pay for sewers, but not poor enough to qualify for help.

Farmers' Home has been the one source of assistance for many towns but they do not have the funding to help everyone who needs it. I would urge that the Subcommittee re-examine the current Construction Grant loan program to the extent that the low-interest loans it provides are often not even affordable for communities of moderate means. I know that the Chairman is aware of the problem small and rural communities have in meeting their wastewater treatment needs and that he has held a hearing on this subject.

I testified in 1990 before this Subcommittee on the financial problems the Village of Delta was having in correcting its combined sewer overflow problem. I stand by my testimony then which urged that EPA address CSO problems in a manner which employs site-specific, flexible standards that balance environmental and economic considerations. This language was included in the VA, HUD and Independent Agencies Conference Report for FY 1993 and I would urge this Subcommittee to work with EPA to ensure that any CSO regulations address the financial impediments for many localities.

#### NON-POINT SOURCE POLLUTION

As for the rest of our nation's fresh waters, the EPA estimates that a full 75% of the new loadings of certain contaminants into the Great Lakes is from diffuse sources of pollution. These sources include, broadly speaking, atmospheric deposition of toxic substances, leachate from contaminated sites and runoff. Fortunately, a provision in the 1990 Clean Air Act, entitled the Great Waters program, will go a long way toward identifying impacts of and abatement needs for atmospheric deposition of toxicants into the Great Lakes. However, leachate of contaminants from polluted sites and runoff fall very much under the jurisdiction of the Clean Water Act, and in both cases, more needs to be done.

Contaminated sediments and other in-place pollutants are gaining increasing attention as sources of contaminants into the Great Lakes. Contaminated sediments are one of the largest pollutants in the western basin of Lake Erie. They introduce contaminants into the food chain that accumulate to dangerous levels in fish and other wildlife. These polluted sites impede harbor uses and redevelopment of old industrial sites. In short, the sooner we get a handle on cleaning these areas up, or effectively containing the contaminants, the better. We are already overdue in our efforts to take care of this public health, environmental and economic problem.

The Clean Water Act should contain a second phase of the Assessment and Remediation of Contaminated Sediments program, otherwise known as ARCS. As you know, this program demonstrates sediment remediation technologies on the pilot scales at 5 Areas of Concern. In Ohio, this program has been demonstrated at the Ashtabula Area of Concern. The second phase should authorize more sediment treatment technology demonstrations at the pilot and full scale. It should

also include some form of technical and financial assistance and outreach to communities beset with contaminated harbors around the basin, and perhaps even include a jobs program that could be conducted in cooperation with the region's universities to assist students in entering the field of pollution remediation.

Agricultural run-off is the number one water quality problem in northwest Ohio. Conservation tillage has gained acceptance in part due to the federal cost share funds (Section 319 non-point source pollution grants) that were made available for the purchase of conservation tillage equipment, and due to profitability of no-till farming. The program has worked extremely well in my district. Water quality testing has shown some reduction in phosphorus levels but the sediment, nitrate, and pesticide loads remain high. To achieve these necessary reductions, additional incentives are needed to encourage the agricultural community to practice conservation tillage, and reduce its use of fertilizers and pesticides. Stream bank buffers, windbreaks, cover crops, wetlands, and practices such as crop rotations that result in reduced chemical applications improve our environment. The federal government must continue to help the states and regional agencies solve these problems.

With respect to run-off, I am extremely gratified that Congressman Oberstar has been devoting his talents to developing a national non-point source proposal. I know he fully appreciates how important this focus is to the Great Lakes basin, and I look forward to working with him to gain enactment of an aggressive and effective non-point source provision. Much of our contaminated sediments began as soil and contaminant runoff upstream.

The Clean Water Act non-point source provision should include language similar to Mr. Oberstar's Great Lakes Sediment Reduction Act, included in last year's House Water Resources Development Act, but dropped from the final version. That measure would have required the Corps of Engineers to work through the EPA to develop Tributary Transport Models of soil run-off for each major river system feeding a Great Lakes harbor. The task of developing models is not as monumental as it may sound since the Corps, the Soil Conservation Service and the United States Geological Survey already have substantial data on some rivers. However, a further development and compilation of this is exactly what the Great Lakes basin needs to identify high priority watersheds for intensive non-point pollution abatement work. We also need this information for our Lakewide Management planning process. Bedload material from rivers is a major transport medium for pollutants entering the Lakes, yet currently it is not accounted for in our lakewide mass balance efforts.

**POLLUTION PREVENTION**

Another priority area for the Great Lakes is assisting our manufacturing industry and municipalities in making the transition to pollution prevention. Last year, Senators Metzenbaum and Glenn included language in their Great Lakes Protection Act which would have given Great Lakes manufacturers incentives under the Clean Water Act to install in the near term modernizing pollution prevention technology on their factory floors. This program would have served the dual purpose of helping to demonstrate new environmental technologies, and to increase the extent to which our Best Available Control Technology standards incorporate pollution prevention techniques. Such a program is especially important to the Great Lakes because our industry soon will be going the extra mile in environmental protection in compliance with the Great Lakes Water Quality Initiative Guidance.

Pollution prevention is often the most efficient way for industry to achieve the water quality standards that are necessary to protect the Great Lakes but the initial investment and technical uncertainties can create difficult initial barriers. I hope that the Clean Water Act will include language to facilitate our overcoming these obstacles and the transition to sustainable manufacturing in the Great Lakes basin.

**PLANNING AND COORDINATION**

Monitoring and oversight is an important part of our continuing environmental clean-up. Water pollution does not respect political boundaries, whether city, village, county, state or nation. Water quality must be managed on a watershed basis, bringing the various affected parties -- neighbors, business persons, environmentalists, farmers -- and Federal, State and local agencies together.

Regional planning agencies have filled this coordinating role, and should continue to do so. Their funding has come from a set-aside from Section 604(b), the Construction Grant/State Revolving Loan Fund. This provision should be preserved in the new Clean Water Act, with its mandatory pass-through to ensure that a consistent funding level will be achieved at the local level.

In my district, the International Joint Commission (IJC) recognized the Maumee River as an Area of Concern largely because of agricultural run-off. The Toledo Metropolitan Area Council of Governments (TMACOG) is the responsible water quality planning agency, in cooperation with the Ohio EPA, for the development and the monitoring of the implementation of the Maumee River Remedial Action Plan (Maumee RAP). We should add a similar set-aside as Section 604(b) with a mandatory pass-through from the Section 319 non-point source funds.

These areawide water quality planning agencies have helped communities get sewer systems built, and assisted local governments in securing the necessary funding. Through the Maumee RAP, they have called for cleaning up abandoned dumps, a long-ignored environmental hazard, and promoted soil and water conservation across the entire Maumee River basin.

By calling attention to this problem, in my district, we have received support from Federal and State agencies. We have received increased conservation from the farm community. And, we have established the "High School Stream Monitoring Program," bringing water quality into the classroom so that future generations may do more than we have to keep our environment clean.

Our local planning organizations play an important role in coordinating water quality initiatives and, thus, must be given adequate planning funding to do their job.

As you move to reauthorize the Clean Water Act, I hope that you will consider initiatives that will benefit the Great Lakes region. I look forward to working together in this endeavor.

Thank you, Mr. Chairman, for consideration of my testimony.

STATEMENT OF

WILLIAM O. LIPINSKI  
Member of Congress

3rd Congressional District, Illinois

Regarding

The Reauthorization of the Federal Water Pollution Control Act

April 21, 1993

Before the United States House of Representatives  
Committee on Public Works and Transportation  
Subcommittee on Water Resources and Environment

Good Morning,

Mr. Chairman and members of the subcommittee, thank you for this opportunity to present my views on behalf of the Metropolitan Water Reclamation District of Greater Chicago. I would like to express my appreciation for the many years of support this subcommittee has shown for Chicago's water pollution control programs. I would also like to provide you with a progress report of the District's landmark plan to provide flood and pollution control benefits to the people of Chicago, the Great Lakes states, and our Canadian neighbors. This is also the opportunity for me to make a request of continued federal involvement in addressing the combined sewer overflow problems faced by my constituents.

Over two decades ago, in an effort to meet the water quality goals of the Clean Water Act, to prevent backflows into Lake Michigan, and to provide an outlet for flood waters, the District designed the innovative two-phase Tunnel and Reservoir Plan, or TARP. Phase One is a combined sewer overflow elimination system, while Phase Two will provide containment reservoirs. Both elements of TARP will bring flood control relief to hundreds of thousands of residents and businesses in the Chicagoland area.

TARP Phase One is an intricate system of drop shafts, tunnels, and pumping stations. These are designed to capture combined sewer overflows from a service area of 375 square miles, containing 13,500 miles of sewers. Of the 110 miles of tunnels comprising TARP Phase One, the largest is the Mainstream Tunnel. To give you some idea of TARP's capacity, the completed portion of the Mainstream consists of 31 miles of tunnels 13 to 33 feet in diameter and 240 to 300 feet below ground.

The Mainstream portion of TARP was funded through the Construction Grant Program and placed in operation in 1985. I am pleased to point out that Mainstream was completed on schedule and under budget. Frankly, this accomplishment is extraordinary, considering TARP's scale and the engineering complexity involved.

On October 18, 1985, the first operational filling of the tunnel occurred. This happened when a 12-hour duration rainfall generated 3 inches of rain in the Chicago Metropolitan area. A rainfall of this magnitude normally causes health-threatening water pollution and backflows of raw sewage into Lake Michigan. However, as a direct result of TARP over 1 billion gallons of combined raw sewage was prevented from being discharged into the Chicago waterways. This also prevented the direct release of 85 million gallons of combined sewage into Lake Michigan. Additionally, flooding in the areas adjacent to the Mainstream tunnel was virtually non-existent. I would suggest that this proven effectiveness of TARP serves as a model of how federal dollars can be well-spent.

On November 2, 1985, a 30-hour rainstorm filled the tunnel for the second time and on November 19, 1985, the tunnel was filled for the third time as a result of another heavy rain, thus preventing the exposure of citizens of

the Chicagoland area to possible health risk. Since it has been in operation, the Mainstream TARP pumping station alone has pumped over 181 billion gallons of captured combined sewage for complete treatment. During treatment of this polluted water, an estimated 195,000 tons of sewage solids were removed.

What the Water Reclamation District is most proud of is the contribution this plan has made to the health and the environment of the adjoining Great Lakes states. By preventing these backflows into Lake Michigan, this plan has proven to the region and to the nation that we are serious about improving the quality of our international waters for generations to come. I am convinced that continuing the federal involvement in the combined sewer overflow problems in our area is necessary to protect the investment already made through the Construction Grants program.

What has been most rewarding to myself and my constituents has been the return of our most precious resource, Lake Michigan, and our Illinois waterways back to a fishable, swimmable state. I am pleased to report that our local waterways are once again supporting a native fish population. TARP stands as an example to the nation that environmentally-wise and cost-effective solutions need not be mutually exclusive.

The Mainstream system has proven to be a highly successful venture. Indeed, others have recognized its success as well. In 1986, the Mainstream Tunnel project was judged by the American Society of Civil Engineers to be the Outstanding Engineering Achievement of that year.

Mr. Chairman, in the first eight years of operation, TARP has eliminated 75 percent of the combined sewage pollution problems throughout most of Chicago and 15 nearby suburbs. However, the program faces uncertainty today because as you know, funding authority for the Construction Grant program has elapsed, and the State revolving fund program is under-financed.

If this situation is not corrected soon, TARP's construction will not continue on schedule. While the District has 85 miles of tunnel completed or under construction, it still has about 25 miles to complete, along with a pumping station and some additional elements. If the Construction Grant Program is not reauthorized, I would suggest to you that we jeopardize losing the very benefits District engineers have worked so hard to achieve.

Throughout TARP's development, the District has worked closely with the State of Illinois and local authorities. However, the financial scope of this program has always been beyond the capability of local resources. Fortunately for the people of Chicago, Congress has remained committed to making up the difference. This continued federal involvement is necessary if TARP is to be completed. Obviously, the job is not yet finished.

EPA has consistently found TARP to be the most cost-effective solution for reducing storm impact on Chicago and the surrounding metropolitan area. What is important to the District, and to the citizens of Chicago, is to protect the investment already made through the Construction Grants program.

Mr. Chairman, TARP stands as a tribute to our nation's Clean water goals. In an effort to protect this investment, I request that the Subcommittee continue federal involvement through the Construction Grants program. The program should be authorized at or near, its pre-1986 level of \$2.4 billion. Of this amount, the District will require \$500 million to complete Phase One.

Again, I appreciate this opportunity to testify, I am confident that with adequate funding of projects like TARP, we can achieve the goals of the Clean Water Act. I make this request on behalf of the District, the entire Great Lakes region, and the people of Chicago.

Thank you.

ELEANOR HOLMES NORTON  
DISTRICT OF COLUMBIA

COMMITTEE ON  
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DEMOCRATIC STUDY GROUP  
EXECUTIVE COMMITTEE

**STATEMENT OF CONGRESSWOMAN ELEANOR HOLMES NORTON**  
**BEFORE THE SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT**  
**COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION**  
**HEARING ON REAUTHORIZATION OF THE**  
**FEDERAL WATER POLLUTION CONTROL ACT**

April 21, 1993

Chairman Applegate, members of the Subcommittee, I appreciate the opportunity to testify today. I am particularly pleased to be a member of this Subcommittee and proud of the work it is doing under our able Chair.

Just yesterday, American Rivers named a river within sight of the Capitol the "Most Endangered River in Urban America." The Anacostia River ranked high and dirty on what I call the "Dirty 10," the 10 most endangered rivers in America. The Anacostia was number four. Today I want to propose that the Clean Water Act we are reauthorizing include an Urban Watershed Program similar to the National Estuary Program that protects smaller tributaries of larger waterways. Given the size and importance of these watersheds, they need and deserve new and separate funding. Minimally, jurisdictions should have the option to use existing funds for urban watershed restoration. If the new program were to become a part of an existing program under the Act, such as section 319 nonpoint source program, then every effort should be made to increase those funds.

The watersheds that would be covered are parts of the great cities of America. In a very real sense these "working rivers" built America. They have been central to industry and commerce. They have provided drinking water, food, and recreation. We have mightily used these rivers and nearly used them up. I believe that it should be unthinkable to reauthorize the Clean Water Act today without including a more comprehensive approach to the restoration of the great urban rivers.

The rivers I refer to deserve a lot of the credit for building a strong industrial America. Among them are the Detroit River, the Los Angeles River, the Platte River in Denver, the Chicago River, the Hudson River in New York and the Lackawanna in Pennsylvania.

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Statement of Congresswoman Norton  
Hearing: Reauthorization of the Clean Water Act  
April 21, 1993  
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The experience that leads to my interest in city rivers is, of course, the Anacostia. In 1991 former Congressman Henry Nowak, who was Chair of this Subcommittee then and Congressman Robert Petri, who was Ranking Member, held a field hearing about the Anacostia in a Washington, D.C. neighborhood bordering the river. The hearing documented extraordinarily strong regional, local, citizen, and organizational activity and support. For years the Anacostia has attracted successful efforts and cooperation from elected leaders, regional officials and organizations and from this region's devoted and untiring environmentalists. This rejuvenation activity needs and deserves an appropriate framework under the Clean Water Act if it is to become even more effective.

The survival of city rivers is indeed a miracle of nature when we consider the enemies that plunder their shores everyday. The Anacostia is typical. Nonpoint source pollution from surface runoff from streets, parking lots and other impervious surfaces, construction sites and lawns is one of the river's most serious problems. Municipal storm sewer systems collect runoff from streets, parking lots, lawns and industrial facilities and discharges them into the Anacostia. As a result pesticides and urban and industrial wastes wash into the river. Point source pollution by individual polluters discharges into the river and its tributaries without complying with the clean up requirements of the Clean Water Act. Manmade alterations to the river and surrounding areas, much of it done by the Corps of Engineers before we knew better, have taken a heavy toll. The dredging, straightening, and riprapping of the river, combined with the clearing of the riverbanks, has resulted in sedimentation and erosion and destroyed habitats. Many of the activities which caused these problems are no longer conducted, but the damage which has resulted remains and worsens.

Rivers like the Anacostia cannot fully recover even with the admirable and energetic mix of approaches that surround river restoration today. The starting point, I believe in this year of reauthorization, is to focus on these rivers through special urban watershed restoration programs, and not simply through a series of often unconnected grants to states, jurisdictions, and organizations. The Urban Watershed Program would have major roles for the federal government, the states, and local government and citizen groups. Urban watersheds of national significance could be nominated by Governors with the concurrence of urban watershed citizen advisory councils and local officials. EPA's role would be to (a) channel grant money; (b) oversee the program; (c) coordinate with other agencies ( e.g. National Park Service, U.S. Fish and Wildlife Service); and provide technical and financial assistance to the urban watershed projects.

Statement of Congresswoman Norton  
Hearing: Reauthorization of the Clean Water Act  
April 21, 1993  
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States would (a) administer the federal grant money; (b) provide additional state grant money; (c) help to train citizens to do water quality monitoring and other project components; and (d) commit to revising and enforcing urban run off NPDES permits to reflect watershed restoration requirements (e.g. combined sewer overflow, and stormwater permits). Local governments and local citizens groups would work as equal partners in the restoration effort to design the individual watershed restoration projects, hire and train inner city youth and others to do the on-the-ground work, and conduct the watershed surveys, restoration projects, and public education activities.

Central to my proposal is citizen involvement. Citizen river restoration efforts already underway along the Anacostia are proof positive that just as "all politics is local" virtually all successful river restoration efforts are also local. It is the people who live near the river who care most deeply and personally about their waterways. All they need are the tools.

Just as the F.B.I. has its "ten most wanted" list, my home town river has gotten the dubious honor of the most endangered urban river in America. However, the Anacostia is but a proxy for all of Americas endangered urban rivers. It runs along the banks of the showcase Nation's Capital, just far enough from the great tourist attractions to be forgotten. The Potomac, which runs through the heart of this city, however, became a national embarrassment and got a special cleaning with Clean Water Act funds beginning 20 years ago. The Anacostia, the "Peoples River," the river of the neighborhoods, was ignored as have the other urban rivers of America. This year when we are reauthorizing the Clean Water Act, the "working rivers" of our large metropolitan areas deserve attention. This is the year to give citizens and state and local governments the tools to reclaim the city rivers which have worked overtime for our country.

STATEMENT OF REPRESENTATIVE PALLONE  
WATER RESOURCES AND ENVIRONMENT SUBCOMMITTEE

APRIL 21, 1993

Mr. Chairman, thank you for welcoming me back to the Public Works Subcommittee. I am enjoying my work at Energy and Commerce but as your Committee staff knows, I continue to rely on their expertise and assistance.

The Clean Water Act has not attained its goal because dischargers of toxic and other harmful substances, even when they have vastly exceeded permit levels, have not been sufficiently penalized for their actions. In far too many cases they have not been penalized at all because the Environmental Protection Agency has misused its wide discretion to set -- or not to set -- penalties for violations of the Act.

With agonizing consistency, EPA has either ignored violations altogether or compromised on fines and penalties to such a degree that violators have been able to derive economic benefit from polluting our waterways. That is, industry has found that paying lenient fines for Clean Water violations is cheaper than investing in proper pollution control equipment and complying with the law. Simply put, without a mandate for strong enforcement, industry has found that it pays to pollute.

The United States General Accounting Office confirmed this in 1991:

Enforcement of our nation's water quality laws continues to be weak and sporadic. Despite serious and longstanding violations, most enforcement actions are mild, informal 'slaps on the wrist' rather than formal actions such as administrative orders or fines and penalties. Further, even in the relatively few cases where penalties have been assessed, they are often significantly reduced or dropped without adequate documentation.

In 1989, the EPA Inspector General analyzed penalty provisions under all EPA programs, including water and reported that:

Appropriate penalties were either not calculated and assessed at all, or were inadequately calculated. Also, calculated penalties were reduced during negotiations, in some cases in excess of 90 percent and amounting to millions of dollars, with little or no documentation to support the reductions. In many cases the financial benefits the violator received from delayed or avoided costs were not recovered.

Inadequate enforcement of the Clean Water Act undermines our advances in improving water quality. We must do better. I maintain that unless we create incentives by 1) enacting mandatory minimum penalties 2) removing the economic incentive for industries to remain out of compliance 3) adding stronger reporting and inspection provisions and 4) empowering citizens, we will continue on this downward trend.

Last session, I introduced H.R. 3429, the Clean Water Enforcement and Compliance Improvement Act. In a matter of weeks, I intend to introduce a slightly more expanded version of this legislation which seeks to implement the above changes.

It is modeled upon a New Jersey law which I had authored in the State Legislature and which subsequently passed in 1991. New Jersey has found that there is an economic benefit in pollution prevention. Since enacting the New Jersey Clean Water Enforcement Act, the State has heralded its success in its annual reviews.

In March, the State reported that the 1992 data concerning inspections show a trend toward compliance by more facilities. The number of facilities which inspections found "unacceptable" decreased from 792 in 1991 to 505 in 1992.

Moreover, in 1992, permit holders moved toward more substantial compliance with the Discharge Monitoring Requirements. The number of violations for failure to submit

discharge monitoring reports decreased from 59 for a six month period in 1991 to 38 for all of 1992.

These self-reporting requirements are at the heart of the State and proposed federal legislation because they provide up-to-date information on violations and deter violators from masking the severity of their violations through the continued practice of averaging data.

Frequent inspection has led to quicker action and in turn the average penalty assessed in each formal enforcement action has decreased.

The State has increased its permit action by nearly 140%. They have eliminated duplicative permits, issued new permits, renewed, modified or terminated permits. These up-to-date permits will undoubtedly yield great environmental benefits.

My legislation, like the New Jersey Clean Water Enforcement Act requires mandatory minimum penalties of \$1,000 per violation, per day for "serious violators". For polluters meeting the statutory definition of "significant non-compliance", a mandatory minimum penalty of \$5,000 per violation, per day would be set.

To effectuate these mandatory minimum penalties, EPA will no longer have the discretion to not calculate "economic benefits". Penalties won't be compromised below the economic gain for remaining out of compliance. And, punitive damages shall not be reduced by more than 25%.

Over the last twenty years, Congress has invested billions of dollars in upgrading and improving water treatment facilities. However, because industrial discharges to publicly owned treatment works (POTWs), are largely unregulated, industries have in effect been granted a "license to pollute" as long as their discharges "pass through" a POTW. Untreated waste passing

through these facilities exposes plant workers to dangerous fumes or the threat of explosion, damages plant infrastructure and contaminates sewage sludge, making beneficial reuse impossible.

No longer will monitoring and reporting requirements be less stringent for indirect discharges to POTW's. Under my legislation all facilities discharging to ground waters, surface waters or treatment works must submit discharge monitoring reports monthly.

As the New Jersey law demonstrates, record keeping and increased inspection targets problems and avoids lingering, unattended harm to the environment. Serious violations are caught early on.

The Department of Justice has credited citizen groups for their "valuable public service...in seeking compliance with a host of environmental statutes, particularly the Clean Water Act." Over a four-year period, New Jersey Public Interest Research Group (PIRG) has recovered nearly \$6 million for the United States Treasury. Nationwide, nearly \$9.7 million in penalties and interest have accumulated because of citizen suits.

Congress intended for citizen suits to have a deterrent effect. My bill seeks to remove the obstacles which are clearly contrary to Congressional intent. Congress has provided that any citizen may commence a civil action against any person "alleged to be in violation of" the Act.

The Supreme Court in Chesapeake Bay Foundation v. Gwaltney of Smithfield, Ltd. 484 U.S. 49 (1987), undermined this provision when it brazenly decided this meant citizens cannot sue for "wholly past" violations.

The chilling result is that industry, rather than coming into compliance once they have broken our environmental laws, waits until citizens file notice of intent to sue. The company then comes into compliance within the prescribed 60 day period. This clever modis operandi means that they avoid citizen actions, penalties and that they retain economic benefit for polluting our resources.

This is not a bold legislative change, Congress made a similar change to the Clean Air Act last session.

My legislation adapts an EPA recommendation clarifying that State enforcement actions may not bar the imposition of federal civil judicial penalties. Again, this is consistent with Congressional intent.

Additionally, my bill seeks to clarify the definition of citizen standing and includes a finding and definition which seeks to end any preemptive barring of citizen access to the courts.

I mentioned that New Jersey PIRG has been a leader in citizen suit enforcement. Much of these penalties have gone to mitigation projects. My legislation expands the use of penalty funds and allows the court in its discretion to order that civil penalties collected by the government or through citizen actions be used for carrying out mitigation projects which are consistent with the CWA and which enhance the public health or environment.

In my mind, citizens should have access to as much public information as possible where public health and safety is at issue.

For this reason, I am including language to require posting at waterways which do not meet water quality standards or where fish and shellfish consumption is banned. Posting provisions will apply wherever a facility discharges into a waterway and in quarterly utility bills. Moreover, EPA must develop standards for posting and for developing fishing advisories.

The State of New Jersey should be proud of its leadership in Clean Water Enforcement. Congress should move quickly to reauthorize the Clean Water Act with a strong enforcement program which mirrors the New Jersey law.

Following are key components of my legislation:

- \* Eliminates agencies' discretion in the issuance of penalties -- they must impose fines whenever serious or chronic violations are discovered;
- \* Creates mandatory minimum civil penalties for violations which must be at least high enough to cancel out the "economic benefit of polluting";
- \* Penalties grow stronger for serious violations, and for repeat violators. The minimum fine for "serious violators" will be \$1,000 per violation per day. For "significant noncompliers" the minimum fine will be \$5,000 per day per violations;
- \* Doubles the maximum penalty from \$10,000 to \$20,000 per violation;
- \* Makes criminal penalties uniform nationwide and requires state enforcement authorities to conduct regular inspections of generators. Today there is no such requirement;
- \* Mandatory inspection at the facility upon designation as a significant non-complier.
- \* All state and EPA compliance and enforcement reports will be made available to the press so that the biggest polluters will be exposed;
- \* Expands citizens' ability to bring actions for pretreatment and all other violations -- including past violations. Changes current

law by enabling citizens to sue for recovery of damages caused by violations which occurred in the past, but may have been only recently uncovered.

- \* Clarifies definition of citizen standing to include any person who uses the water system (or associated natural resources) into which the discharge occurs or who would use that system if it were less polluted or was otherwise adversely affected by the discharge.
- \* Eliminates bar that State administrative action precludes citizen suits.
- \* Greater flexibility to the courts in ordering mitigation projects.
- \* Posting provisions.

Recently, I learned that 80% of the EPA's agenda is determined by court orders. The bad news is that the agency's proposed budget includes significant cuts. This means that enforcement will suffer. We must enact stronger enforcement provisions which will empower the POTW and local designated authority to step in and wager a battle for enforcement of our environmental laws.

The reasoning of the Clean Water Enforcement and Compliance Improvement Act is simple. If it becomes plain that violators will be held accountable and that it is no longer safe to assume EPA will either ignore violations or assess tacit penalties, then industry will begin to see an economic benefit in pollution prevention.

This is the true goal of the Clean Water Act and a goal that could have been met 20 years ago but for the lack of mandatory minimum penalties and sufficient oversight.

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**STATEMENT OF THE HONORABLE ED PASTOR**  
**Arizona - Second District**

before the

**SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT**  
**House Committee on Public Works and Transportation**

April 21, 1993

Mr. Chairman, I want to thank you for the opportunity to speak today and commend the Subcommittee for giving high priority to the reauthorization of the Clean Water Act. The Act has served as the primary mechanism for us to clean up surface waters throughout the United States since its inception in 1972. And while we can be justly proud of what we have achieved during these past twenty one years, much remains to be done. In that regard, we must determine what still needs to be done, and amend the Act to provide us with the tools necessary to achieve even greater successes in the context of regional economic and environmental realities.

#### THE CLEAN WATER ACT: "FISHABLE-SWIMMABLE" GOALS

My purpose in testifying today, Mr. Chairman, is to seek your support for the establishment of a regional Water Quality Research Project (WQRP) in Pima County, Arizona to deal with a major problem faced by 17 states throughout the arid West. As you know, in 1972, Congress passed the Clean Water Act to "restore and maintain the chemical, physical and biological integrity of the nation's waters." The purpose of the Act was to promote, "wherever attainable," water quality which protected and encouraged the propagation of fish, shellfish, and wildlife and allowed recreational activities in and on the water. People soon began referring to this goal, in short hand, as "fishable-swimmable." Later, in 1987, the Act was amended to require States to establish comprehensive narrative and numeric water quality standards. These were admirable goals and they have served the nation well in some, but not all, cases.

Congress has charged the EPA with responsibility for enforcing the Act and developing appropriate water quality criteria for navigable waters of the United States. The States use such criteria as federal guidance in establishing State water quality standards. Over time, the EPA has adopted national water quality criteria based on scientific research performed on biota native to "wet ecosystems" in an attempt to satisfy the "fishable-swimmable" objectives established in the 1987 amendments.

The EPA's policy based on "fishable-swimmable" objectives threatens to impose a great financial burden on people and institutions in the west who live in "arid ecosystems." These areas are being faced with the very real threat of having to construct new, or retrofit existing, wastewater treatment facilities to treat stormwater and wastewater to meet water quality standards which are simply not "attainable" at a reasonable cost. In addition, even with the expenditure of the billions of dollars needed to treat such waters, there is little indication that such measures will result in any significant net environmental benefit to the area.

#### ARID ECOSYSTEMS: THE NEED TO "PROTECT WHAT IS THERE"

Arid ecosystems throughout the west are laced with ephemeral and effluent-dependent streams. Ephemeral streams are streams that have a dry channel that is above the water table. The streams are classified as effluent-dependent when they owe their water flows primarily to discharges from wastewater treatment facilities. In reality, these streams are really nothing more than "dry washes" most of the year. The only time they are not dry is when the area experiences a rainstorm or the local wastewater plant discharges in to the wash.

Mr. Chairman, it simply doesn't make any sense to set water quality standards designed to protect biota (e.g. fish) normally found in a wet ecosystem, when such biota are incapable of surviving in a dry wash under normal circumstances. Unfortunately, that is exactly what we in the West are being asked to do.

Congress can remedy this dilemma by enabling the EPA to fulfill the intent of the Clean Water Act and giving the Agency the resources to develop water quality criteria for arid regions designed to "...accurately reflect[ing] the latest scientific knowledge.." of that region's ecosystem.

Governmental and private entities throughout the arid West have urged the EPA for some time to commission the conduct of appropriate on-site, scientific research to determine what should be protected in arid environments. The objective should be to protect the existing ecosystem, not some arbitrary standard established on the basis of national water quality criteria.

I would like to add, Mr. Chairman, that during the past year, the EPA has made statements in support of the need to develop water quality criteria for the arid West based on accurate science. For example, in June 1992, EPA Region 9 published a document entitled Guidance for Modifying Water Quality Standards and Protecting Effluent-Dependent Ecosystems, (Interim Final). The document recognized "...that EPA's national uses, water quality criteria and resulting effluent limits may not always be appropriate when applied to the conditions that exist in effluent-dependent water bodies in the arid West."

The document concludes with the statement:

EPA Region 9 is committed to working with regulatory agencies, impacted dischargers and the public to resolve the issues concerning effluent-dependent streams in the arid West. EPA Region 9 recognizes that it may be necessary to modify water quality criteria, uses, and their water quality-based permits to accurately reflect the conditions in the arid West. This guidance offers a possible framework for striking the balance between protection of designated uses, preservation of valuable ecosystems, and the benefits of water reclamation.

#### THE WQRP

Pima County, Arizona has developed a proposal to establish a regional WQRP in Southern Arizona to conduct the needed research. The regional WQRP would be operated in cooperation with the EPA and would provide researchers with a centralized site to conduct on-site research to deal with common water quality problems throughout the arid West. Governmental and private entities from outside Arizona might want to conduct some additional "specific site" analysis in their own area of operations, and the WQRP would give them an opportunity to share scientific knowledge with scientists dealing with similar problems as well as take advantage of economies of scale which come from operating out of a central research facility.

The County is seeking authorization for an appropriation of monies to construct a WQRP in Pima County, Arizona to conduct laboratory, ephemeral stream, and field research on the impact of effluent and stormwater discharges on the flora and fauna of arid ecosystems. Initially, the County seeks \$5 million in federal funds to: (1) begin planning and design of the WQRP, (2) establish a biological laboratory to conduct the research, and (3) establish a program to begin monitoring the water quality of stormwater flows. The County is prepared to contribute up to \$500,000 in matching funds in the form of land, effluent, analytical laboratory testing services, and staff support to the project.

The Pima County proposal has the support of various entities, for example:

- The Tucson Audubon Society
- The Western Coalition of Arid States
- The Association of Metropolitan Sewerage Agencies
- The International Boundary and Water Commission
- Eastern Municipal Water District; Riverside, California
- The Arizona Department of Environmental Quality
- The City of Albuquerque, New Mexico,
- Southern Arizona Water Resources Association.

I would like to submit two documents for the Subcommittee's review: Rationale for a Program of Research to Develop Water Quality Criteria for Effluent-Dependent Ephemeral Streams and Riparian Habitats in the Arid West and Regional Water Quality Research Project. These documents outline, in greater detail, the need for regional water quality criteria and the functions and scope of the proposed WQRP.

Mr. Chairman, I ask that the Subcommittee honor the County's request to proceed with its study and construction of the WQRP. The authors of the Clean Water Act recognized that water quality criteria and water quality standards should be established on the basis of accurate scientific research. There is only one true way one can achieve that degree of accuracy and that is to conduct the research in the affected ecosystem.

Thank you Mr. Chairman for allowing me to speak before the Subcommittee today, and for your consideration of my request.

RATIONALE FOR  
A PROGRAM OF RESEARCH  
TO DEVELOP WATER QUALITY CRITERIA  
FOR EFFLUENT-DEPENDENT  
EPHEMERAL STREAMS AND RIPARIAN HABITATS  
IN THE ARID WEST

A REPORT TO  
PIMA COUNTY WASTEWATER MANAGEMENT  
GEORGE A. BRINSKO, DIRECTOR

*by*

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University of Arizona

and

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## RATIONALE FOR A PROGRAM OF RESEARCH TO DEVELOP WATER QUALITY CRITERIA FOR EFFLUENT-DEPENDENT EPHEMERAL STREAMS AND RIPARIAN HABITATS IN THE ARID WEST

### I. EXECUTIVE SUMMARY

This report recommends a program of research to develop water quality criteria for the arid regions of the western United States. The recommendation flows from an analysis of the problems created when criteria developed for national use are applied to the streams in this environment. National criteria have been developed for aquatic species that are not representative of the species important to the preservation of riparian habitats of ephemeral and effluent-dependent streams. The methods provided by the U.S. Environmental Protection Agency (EPA) to modify national numerical values for use in effluent-dependent and ephemeral streams are not readily applicable because of deficiencies in the methodology, inefficient use of resources, and the lack of basic data on organisms of importance in the region.

Support for a region-wide approach to development of regionally applicable criteria has been growing within national, state, and local regulatory authorities. The ecological importance of wastewater reuse and effluent-supported riparian habitats in the west has demonstrated the need for criteria appropriate specifically for this region, as has been initiated for the Great Lakes and for coastal marine waters.

Ephemerality historically characterizes most waterways of the arid and semiarid west. Generally they are dry except following storm events. In many cases, the only water present in a stream is treated wastewater effluent. Effluent-dependent streams are those ephemeral or perennial streams in which either the wastewater flow or its constituents, e.g., nutrients, exert an appreciable beneficial impact on the stream and riparian ecosystem. A major portion of the western United States, approximately  $1.34 \times 10^6$  square miles, would benefit from research to develop more appropriate water quality criteria for this region.

A large body of technical literature exists on the hydrology and geomorphology of ephemeral streams of the west, however, less is known about the organisms of importance in the riparian ecosystems and their sensitivity to constituents in treated wastewater effluents. The uncertainty about water quality criteria needed to protect important organisms exposed to treated wastewater is magnified when stormwater flows need to be taken into account. No techniques have been developed to evaluate the effects of stormwater flows on the biota, nor to measure the enhancement or degradation of riparian resources associated with stormwater flows.

The report recommends a regional research facility be established at a conveniently accessible and representative location within the arid west to develop scientifically credible water quality criteria data and methodology. A central facility could effectively incorporate the rigor demanded by the EPA for region-wide laboratory dose-response studies whereas many local studies conducted in the past have been rejected by the EPA for methodological

faults. This facility could also incorporate experimental devices such as large mesocosms and simulated streams that from operational and economic considerations could not reasonably be created for each site study. Because of rather large uniformity throughout much of the west, an holistic approach to criteria development would offer scientific and economic advantages. Flexibility would be a design consideration for the central facility with a view to accommodating research needs of other less-generalized situations.

There are, however, some geographical, climate, and wastewater discharge considerations that would require studies at unique locations in addition to criteria development work that could be conducted at a central regional facility. For verification purposes, and to provide feedback for laboratory experiments, field studies are recognized as an important component of the research plan. For example, irrespective of the uniformity of some features between northern and southern extremes of the arid west, there would be non-uniformities in species and response sensitivity that could be adequately studied only at the site. Situations such as this could represent 10 to 20 percent of the effort needed to generate appropriate criteria, while 80 to 90 percent could more efficiently be conducted at the central facility.

The Pima County Wastewater Management (PCWWM) agency in southern Arizona (near Tucson) has made significant contributions to the development of this initiative and has proposed a major contribution of land for the development of the regional facility. Serious consideration should be given to their offer to operate the central facility. Tucson's climate represents a major portion of the climate range in the region, providing exploitable opportunities for experimentation under natural conditions.

Several activities are recommended to be initiated to begin data collection, methods development, and additional planning details:

- Develop a database on biological resources of the Santa Cruz River below the Tucson wastewater treatment plant.
- Determine ammonia concentration effects on species important in EDE stream ecology in relation to nitrogen fate and municipal effluent discharges.
- Develop a model "eco-benefit analysis" for evaluation of alternative criteria for EDE streams including water reuse options.
- Develop an approach to evaluate impact of major stormwater events on EDE stream quality and appropriate criteria.
- Review and evaluate mesocosm and simulated stream approaches for the types of data needed for EDE stream criteria.
- Assemble scientific advisory council for continuing planning effort.

## II. INTRODUCTION

### A. OBJECTIVE

The objective of this proposed program is to improve the scientific basis for regulation of treated municipal wastewater discharges and stormwater to effluent-dependent ephemeral (EDE) streams in the arid western part of the country. This report describes the nature of the problem, a summary of available information, and recommendations for a regional research facility to develop water quality criteria that would be appropriate for protecting the important biological components of ecosystems in these environments.

### B. NATURE OF THE PROBLEM

**Clean Water Act:** A goal of the federal Clean Water Act (U.S. Congress, 1987) is that all of the nation's waters, where attainable, should provide for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water. Over time, the federal agency responsible for the implementation and enforcement of the Act, the EPA, began to interpret this specific goal to mean that all of the nation's waters shall be "fishable and swimmable." While this is an admirable goal, it could impose important societal, ecological, and financial ramifications on various geographical segments of the country, due to their differing aquatic and riparian ecosystems. For example, the climatic and geomorphic conditions of the Great Lakes, the coastal zone, and the arid southwest have generated naturally different fauna and flora and, as a result, local governments have vastly different water resources to manage.

Recognizing this disparity, the Congress and the EPA have responded to initiatives from state and local regulatory agencies, including Pima County, to consider, at least implicitly, regulating discharges on the basis of environmental situations at a specific site (Carlson et al., 1984; Atkins, 1990; Brungs et al., 1992) or in a certain region, for example, the Great Lakes and the arid west (Reilly, 1991; Tuden et al., 1992). This approach has been endorsed by professional water quality and pollution control organizations in Arizona (AWPCA, 1991; Tubbs, 1992; Wiley, 1992) and nationally (AMSA, 1992). While this recognition of regulatory agencies that ecosystems can be protected by environmental criteria and effluent controls matched to the sensitivity and resiliency of organisms exposed to specific discharges is laudatory, the scientific basis for establishing the necessary standards is not yet firmly established. Both data and methods for acquiring data are lacking.

The need for appropriate data can be met through research using existing technologies, although methodologies may need to be modified to meet emerging regulatory constraints. Additional research facilities may be required to accurately represent conditions in arid regions because these ecosystems may not have been incorporated in water quality studies previously used for development of receiving water criteria and effluent controls. The technical approaches to improve the scientific basis for regulations should allow researchers to conduct a broad range of studies, involving naturally existing riparian habitats influenced to varying degrees by municipal effluent and stormwater discharges, a system of simulated stream environments, and laboratory dose-response experiments.

While primary attention should be directed to municipal wastes, which generally include wastes from industries connected to the sewer system, the methods, if not the results, would be useful for criteria development for individual industrial as well as stormwater discharges. Both treated municipal effluents and stormwater runoff are critical components of the available water resource in the arid west, especially in relation to preservation and replenishment of groundwater aquifers. In this region of ephemeral and effluent-dependent streams, the beneficial uses of these components of the water resource are markedly different than in many other regions of the country.

### C. METHODS USED TO GENERATE APPROPRIATE WATER QUALITY STANDARDS

**Gold Book:** The most recent compilation of data (U.S. EPA, 1986a) and rationale (Stephan et al., 1985) for development of national water quality criteria is referred to as the "gold book." Many engineering, science, and regulatory actions are guided by the numerical data and calculation methods in these documents. Absent any other data that might be desired, for example, for a wastewater treatment plant design objective, an engineer would likely specify performance criteria based on gold book values for specific chemical constituents in the waste stream. Scientists studying the quality of a stream similarly could have in mind the gold book values in assessing causal relationships. Unless a state regulatory agency justifies other values, the U.S. EPA will impose these values on the state's waters.

The EPA rationale recognizes that, ideally, criteria should be developed through field tests, however, that was determined to be an infeasible approach, and consequently laboratory studies on aquatic species, primarily in vitro, constitute the bulk of data used to compute the gold book values. The intent is to protect a large number of appropriate taxa, e.g., about 95 percent. Protection of aquatic species is expected to provide an appropriate degree of protection to other animals and plants as well. It is important to note that the rationale also recognizes that in developing regulatory standards from these numerical criteria, it may be important "... to take into account such additional factors as .... hydrological .... environmental chemistry of the material .... and species in the body of water of concern." Thus the EPA's 1985 national guidance for the use of the criteria documents supports the idea of modifying national criteria to reflect local conditions.

The quotation above includes the phrase "in the body of water," probably quite innocently, but it demonstrates a possible narrow view of the value of any water resource in the arid west. In the arid west, even small and ephemeral water resources are of great value to riparian animal and plant communities, and their value to the local environment may be much greater than the value of aquatic species "...in the water body." The EPA focus on aquatic species has been recognized as a limited view before (U.S. EPA, 1989) and efforts to provide methods for wildlife criteria have been proposed in the EPA Great Lakes Water Quality Initiative (U.S. EPA, 1991), as well as more generally (Thomann and Parkerton, 1991).

National criteria have not been derived for all contaminants of concern. The EPA rationale (Stephan et al., 1985) points out that "... the available data ..." may not be sufficient to develop a best estimate for a national criterion. "If all the required data are not available,

usually a criterion should not be derived." [Emphasis added]. This is a scientifically responsible recommendation, but it evidently is not always followed by regulatory agencies. Perhaps regulatory agencies should adopt narrative standards until the necessary data are available. Otherwise, numerical standards derived from data on inappropriate species and imposed on streams harboring different species could turn out to be ineffective.

**Basis for Gold Book Values:** An extensive body of scientific research has contributed to the development of national ambient water quality criteria documents for the United States. Hundreds of pollutants and their effects on dozens of species of aquatic and marine organisms, including plants, have been studied. Research has been conducted by individuals representing a wide range of applied and theoretical sciences; freshwater and marine biologists, wildlife managers, water resource researchers, aquacultural researchers, limnologists, environmental managers, waste managers, toxicologists, biochemical physicists and physiologists, mathematical community theoreticians, plant physiologists, phycologists, fish pathologists, vertebrate and invertebrate physiologists, and oceanographers.

In the development of water quality criteria, scientists at the EPA review tests of acute and chronic toxicity of a wide range of pollutants. Data that are utilized must meet certain basic scientific requirements before they are included in the EPA's decision-making processes that lead to recommended water quality criteria under Section 304(a)(1) of the Clean Water Act. Many factors have led the EPA to reject studies proposed, for example, for the promulgation of criteria for copper, silver, and pentachlorophenols (PCPs).

**Copper:** In the case of ambient water quality criteria for copper, the EPA did not utilize data from studies in which copper was tested as part of a mixture. Data were also not used if research did not clearly provide interpretable concentration-time relationships or if data could not be interpreted in terms of acid-soluble copper. Other work was not included in the data sets used to derive copper criteria because artificial test media were used, results of studies showed relative effects among a group of test organisms, or research was aimed at documenting selection, adaptation, or acclimation of organisms to increased resistance to copper. Lack of adequate reporting of ambient copper concentrations or inadequate controls in field studies precluded use of some research. Studies in which mortality rates in controls were too high were, similarly, not used in criteria development (U.S. EPA, 1985a).

**Silver:** The EPA rejected studies involving the chronic and acute effects of silver for several reasons: test procedures not adequately described; test results not reported in terms of acid-soluble silver; silver used as a component of an effluent or mixture; and organisms exposed to silver by injection or gavage, or tests only exposed enzymes, excised or homogenized tissue, or cell cultures. Other studies conducted without controls were not used and studies in which cultured organisms were raised and tested in different waters were not used. A variety of other studies were rejected for other reasons, primarily related to lack of controls, documentation of dilution water constituents, and lack of measurements of silver in ambient waters from which field studies were conducted (U.S. EPA, 1987).

Another interesting facet of the issue as it relates to criteria for silver revolves around water hardness. The U.S. EPA (1987) acknowledges a lack of information on silver toxicity at

higher hardness levels and, further, points out that there is poor agreement between the few data sets available for harder waters. Consequently, the criteria for silver are weighted toward acute toxicity observations of silver in soft water and criterion concentrations ".....might be overly protective of aquatic organisms in hard waters". Within Pima County and, undoubtedly, in other areas of the arid west, average water hardness probably exceeds 150mg/l and may exceed 1,000mg/l during storm events (F.P. LaSala, Pima County, Personal Communication to E.L. Smith, February 1993). Harding Lawson Associates (1986) measured hardness values between 144mg/l and 362mg/l in effluent flows on the Santa Cruz River in Tucson. They indicated a hardness value of 96mg/l for natural flow in the Santa Cruz. These values are much higher than those that characterize soft water tests upon which the silver criteria are based. The U.S. EPA (1987) value for high hardness is  $>75\text{mg/l}$  as  $\text{CaCO}_3$ .

**Pentachlorophenol (PCP):** Results of studies documenting the effects of PCPs were not used if test procedures or materials were not adequately described, if PCPs were part of a test mixture or if they represented less than eight percent of a test mixture, if PCP was a component of a sediment, if test organisms were exposed by injection, or if PCP exposure was to enzymes, excised or homogenized tissue, cell cultures, or sewage bacteria. Other studies were not used because tests were conducted with too few organisms or concentrations of PCP used in tests fluctuated widely, no replicate test chambers were utilized, or if studies were characterized by high mortality of control organisms (U.S. EPA, 1986b).

**Appropriate Species:** One of the factors in the rejection of research data for inclusion in analyses leading to development of ambient water quality criteria for each of the pollutants reviewed above is that studies related to species that were not resident in North America (U.S. EPA, 1987, 1986b, and 1985a). This is a valid reason for not including study results, but its use demonstrates that this acceptance test may need to be expanded within North America. Virtually all factors that may preclude use of European data, for example, for North American criteria are pertinent with respect to criteria that affect the eastern and western United States. The disparity in climatology, geologic history and related organismic speciation, and presently existing environmental conditions is probably less between the European Continent and the eastern United States than it is between the arid western United States and areas east of the Great Plains in this country.

For example, within the State of Arizona, of the aquatic vertebrate species most often cited as research subjects in water quality criteria documents (rainbow trout, fathead minnow, goldfish, common carp, bluegill, mosquitofish, and guppy) none are native species (see Miller and Lowe, 1964; Minckley, 1973). In fact, of the ambient water quality criteria documents reviewed above (U.S. EPA, 1987, 1986b, and 1985a), with few exceptions none of the vertebrate species is indigenous to the arid southwestern and western United States. Exceptions are the speckled dace *Rhinichthys osculus*, and members of the genus *Salmo* as represented by highly localized populations of native trouts in high elevation, montane habitats (Miller and Lowe, 1964; Minckley, 1973, Lee et al., 1980). The fathead minnow and mosquitofish occur as native species as far west as the Rio Grande system in New Mexico, but are not native elsewhere in the western United States (Lee et al., 1980).

Of 82 studies deemed acceptable by the EPA and involving 29 vertebrate species for determining ambient life criteria for copper (U.S. EPA, 1985a), not one of the 29 species is native to most of the arid western United States. Only the mosquitofish approaches being a native species of the arid west (see Lee et al., 1980, pg. 538 and pg. 341). Similarly, of 18 studies of 7 vertebrate species cited in the draft ambient life criteria document for silver (U.S. EPA, 1987), only the mottled sculpin, *Cottus bairdi* and speckled dace are native to the arid western United States. The speckled dace, as a species, is composed of a large number of disjunct populations, some representing identified subspecies, that are Pleistocene relicts of formerly more widespread ichthyofaunas associated with inland lake systems in the Great Basin (e.g., Lake Bonneville)(Hubbs, et al., 1974). The evolutionary history and causal factors associated with disjunct populations of *Cottus bairdi* in southwestern Utah and northern New Mexico are unclear.

Ambient water quality criteria studies that have been included in the EPA's (1986b) technical document for PCPs also do not include any vertebrate species (52 separate studies of 15 species) that are characteristic of the arid west and southwest. Fathead minnow and mosquitofish are the only two species whose known historic distribution reaches the eastern edge of arid western regions. Both of these species are, notably, historically associated with one of the major, perennial river systems of the southwest, the Rio Grande.

Chadwick and Associates (1992) have raised questions about the efficacy of single-species toxicity tests relative to native faunas of receiving waters. In addition to the inadequacies raised above relative to some vertebrate species, they also examine some of the invertebrates that are used in acute and chronic studies of pollutants. For example, *Ceriodaphnia dubia* (cf. *reticulata*?) a commonly studied Cladoceran species is a planktonic lake-dwelling organism. Not only is *Ceriodaphnia* a planktonic, lake-dwelling organism, it is also likely to be of European origin as is *Daphnia magna*, one of the EPA "standard" test organisms.

Other invertebrate studies cited in the ambient water quality criteria documents for copper, silver, and PCPs include several genera and species of snails; a total of 13 studies combined are cited in the three documents involving 9 snail species. Of this group of snails, only one, *Gyraulus circumstriatus*, has been recorded from the State of Arizona and that record is doubtful (Bequaert and Miller, 1973).

Notwithstanding the disparities in distribution and origin of species often used in research to support water quality criteria decisions, it is noteworthy that most of the groups of organisms (e.g., fish, mollusks, crustaceans, and aquatic insects) are not present in ephemeral streams of the western United States, and many do not occur in effluent-dependent streams.

**Use Attainability & Site Specific Studies:** Use Attainability Analyses (UAA) or Site Specific Studies (SSS) are frequently mentioned as the methods of choice to develop criteria applicable to special situations (Carlson et al., 1984; Stephan et al., 1985; Tuden et al., 1992). While these methods do provide opportunities for modification of national criteria, two major concerns exist in conjunction with the issue of a broadly applicable method for the general situation in the arid west.

The SSS method is fundamentally a proper environmental approach to regulation of a discharge, however, as currently implemented, it is keyed to an individual site. The burden of developing appropriate water quality standards is borne by the individual discharger and, if successfully developed, will apply only to that discharger. If that approach has to be taken by every discharger in the state and region, there may be far greater expenditures of public and industrial funds than would be necessary if a broader approach were possible. Furthermore, there is a need for state, regional, and federal regulatory agencies to become involved in the criteria development process to guard against the creation of inconsistent standards for ecologically similar environments throughout the arid west.

The UAA and SSS methods carry negative stigmata along with their successful application. The implied public image, if not the official regulatory attitude, is that a discharger is not able to meet water quality standards that have been developed. In fact, many dischargers are able to do so, but only with unnecessary cost and without being able to demonstrate commensurate environmental benefit. As with SSS, UAA is a fundamentally-sound environmental approach to discharge regulation, but it too needs to be applied on a broader basis to the expanse of rather uniform stream environments subjected to similar discharges in the arid west. It is not a case of a discharger seeking special consideration, but rather that many dischargers are proposing appropriate consideration for their regional environment and their local ratepayers.

**Ecological Benefit Comparison:** A significant advance in the rationale for developing water quality standards to protect effluent-dependent ecosystems has been proposed by the EPA Region 9 (Tuden et al., 1992). The fundamental idea is to incorporate an ecological benefit comparison in the UAA analyses. This approach allows for the preservation of ecologically valuable riparian habitats, recognizing that in arid lands the use of treated effluent may provide greater benefit than could be realized with standards based on the EPA's national criteria. Furthermore, the approach encourages and enhances the realization of water reclamation and reuse.

As proposed, the approach is to be applied on a case-by-case, site-specific basis. As such, it suffers the disadvantage of not being as applicable to the broad range of common problems faced by a large number of dischargers in the arid west.

**Water-Effect Ratio:** Brungs et al., (1992) provide an analysis of site-specific studies conducted to determine adjustments to national water quality criteria for certain metals. The concentration causing acute toxicity using site water and species divided by the metal concentration based on indicator species data (for the national criterion) is the water-effect ratio (WER). The WER approach allowed use of surrogate species, if necessary, to represent appropriate species at the site. Many of the studies produced data that were judged to be unacceptable. With the exception of zinc, for data judged to be acceptable, there was considerable variation in the WER from site to site for each metal studied. Results for cadmium presented the strongest case for modification of national criteria. The copper data indicated potential utility, but the chromium, lead, and nickel data were too sparse to allow generalization. While the approach is considered appropriate for chronic toxicity studies, the studies included in the evaluation did not produce sufficient data to warrant discussion.

The U.S. EPA subsequently (1992) issued an interim guidance document on site specific modification of national metal criteria, endorsing the WER for criteria derived from laboratory toxicity data. Specific exceptions are the chronic mercury criterion and the field based selenium freshwater criterion. Recommendations for conducting the on-site toxicity studies do not give sufficient consideration to effluent-dependent streams containing more than 50 percent effluent. Some of the recommendations relating to chemical fate and methods to relate toxicity to the exposure regime are presented without citation of technical reports and seem to be open to continuing question. The conclusions and recommendations from the Brungs et al., (1992) report are not discussed and appear not to be reflected in the guidance document.

**Constructed Stream Segments:** In the mid 1970s, the EPA built eight, 1700-foot channels at Monticello, Minnesota to provide a testing facility for development of water quality criteria. The objectives were to add a greater degree of realism to the exposure regime experienced by organisms challenged by various concentrations of chemicals for which criteria were desired. An EPA/University of Minnesota report (Johnson et al., 1991) lists 52 reports of work in the channels between 1977 and 1990. Results were used to verify laboratory exposure data and to provide guidance for better design of laboratory dose-response experiments. The water quality criterion for selenium, for example, was influenced by results from studies using the Monticello channels. The results showed that the field observations on selenium toxicity in North Carolina reservoirs were more representative than laboratory experimental results. In this case, the numerical criterion was more restrictive than would have been indicated by the laboratory data alone.

### III. EPHEMERAL AND EFFLUENT-DEPENDENT STREAMS

#### A. GENERAL DESCRIPTION

Ephemeral streams historically characterize most waterways of the arid west. Ephemeral river and stream channels are dry for most of the year. Literally meaning "for the day", ephemeral streams are more technically defined as streams in which the channel is at all times above the water table, flowing only in direct response to precipitation events. There are unique plant and animal assemblages associated with ephemeral stream conditions that depend on the cyclical presence of water to reach their fullest ecological potential. Indeed, some species, especially vertebrates, are dependent on cyclic moisture events for survival. Some of these species are commonly found associated with ephemeral waterways. Any type of flow alteration project, for example, the construction of retention dams, water diversion projects, and water treatment plants, may have a direct effect on the plants and animals living downstream. This report focuses on the effects of treated wastewater effluent and stormwater discharge into ephemeral streams.

The key characteristic of the majority of streams in the west is ephemeralism, although flow alterations as a result of human intervention have complicated this situation. Streams which were once free-flowing and perennial are now regulated or experience little or no flow throughout much of the year, that is, they are essentially ephemeral streams. The historic conversion of perennial to ephemeral streams has occurred primarily as a result of diversion for agriculture, groundwater pumping for agricultural, industrial, and municipal uses.

On the other hand, many historically ephemeral streams in the arid western United States have been changed into intermittent or perennial streams due to treated municipal sewage or other discharges (e.g., agricultural irrigation run-off). An effluent-dependent stream is one in which flows consist primarily of effluent. Effluent-dependent streams, depending on a variety of hydrologic and other factors, could be considered to be perennial, intermittent, or ephemeral.

To define effluent-dependent streams in terms of the percentage of flow which is effluent is too limiting. The focus of concern is the relationship between ephemeral streams and their associated biotic communities, and the effects of effluent, specifically, treated municipal sewage effluent. Research on this relationship would result in scientific documentation for setting appropriate water quality criteria for ephemeral and/or intermittent streams in the arid western United States. For generality, the term EDE streams is used throughout this report, although regulatory agencies may designate separate and distinct classifications for these stream types.

#### IV. THE ARID WEST

##### A. GEOGRAPHY

The arid west is, in part, a desert encompassing over  $1.34 \times 10^6$  square miles within the United States borders (Figure 1). This area, including parts of 17 western states, is many times greater than the drainage basin for the Great Lakes. Similar geographic and climatic conditions extend northward into Canada, and in the south, into Mexico.

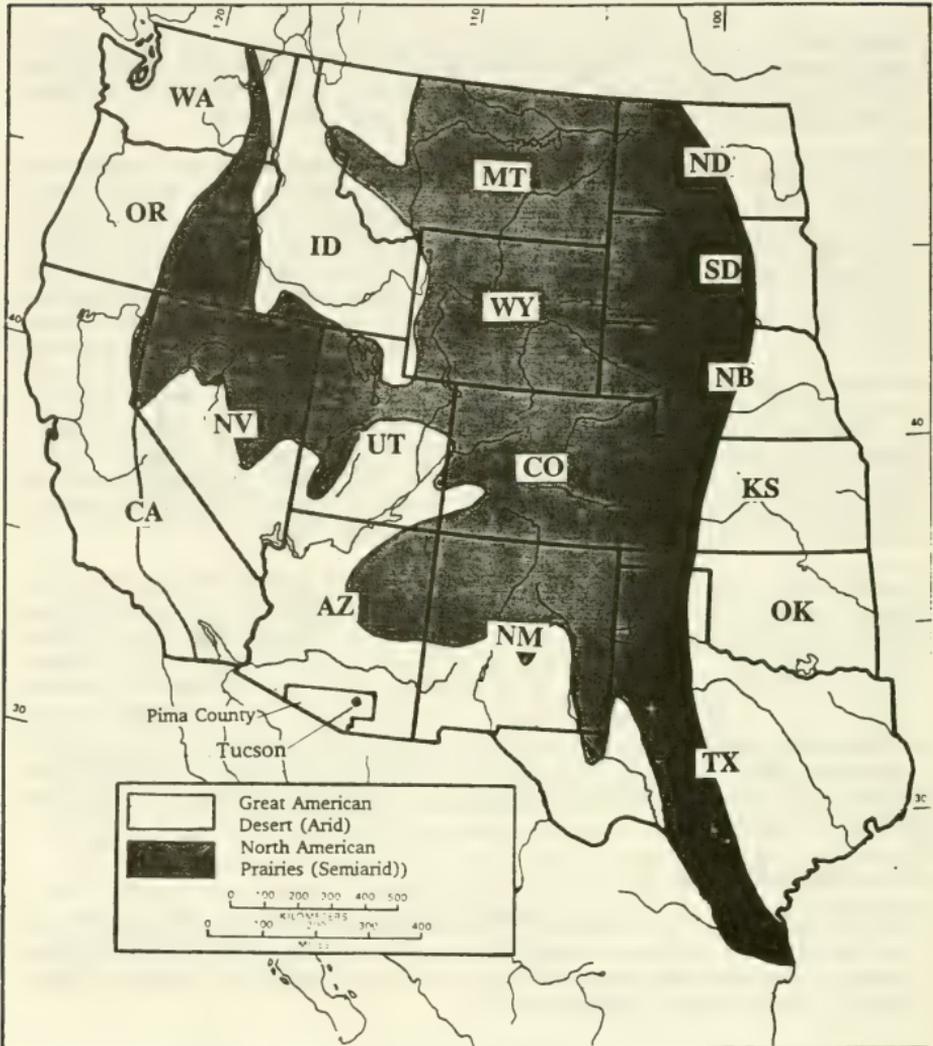
The area includes the Great American Desert, i.e., the southwestern corner of Texas west of El Paso, the southern half of New Mexico, nearly all of Arizona, except the northeastern corner and central plateaus, a small portion of western Colorado, the southern half of Utah and Nevada, plus the portion of southern California east of the Sierra Nevada mountains. It is largely drained by the Colorado, Pecos, and Rio Grande river systems. According to the Koppen climate classification, this area is designated "BWh" which is defined as a tropical and subtropical desert (U.S. Air Force, 1965). Typically in this region, there is less than 15 inches (380mm) of annual precipitation that normally occurs in 60 days or less. The mean daily solar radiation exceeds 450 Langley's per day for most of the region, making it the area within the United States with the greatest amount of sunshine. The summers are hot, with daytime temperatures often exceeding 95°F in July. Winters are mild, with typical January temperatures reaching a low of 25°F (U.S. Department of Commerce, 1972). Biogeographically, the arid west contains parts of the Sonoran, Madrean, Chihuahuan, Mojavian, and Great Basin provinces within which are located parts of the Sonoran, Chihuahuan, and Great Basin deserts and all of the Mojave Desert.

In addition to this truly desert region, the arid and semiarid portion of the western United States extends northward through western Utah, the northern half of Nevada, and into Oregon and Washington on the east side of the Cascade Range, including part of the North American Prairies. While not classified as tropical or subtropical due to freezing temperatures that are characteristic of the winter season, a major portion of the western United States can be classified as being arid or semiarid; some of it typically hot and dry, other portions warm-to-cool and relatively dry. In all regions, aridity results, in part, from rain shadow effects caused by the Cascade and Sierra Nevada ranges and, in part, by the location of the western United States in relation to the major global weather-producing high and low pressure systems.

##### B. CLIMATOLOGY

Pima County, Arizona is representative of the environment in the Great American Desert and is similar to the conditions in major cities the North American Prairies (Table 1). Also, it would closely match the environment of some cities in Mexico (After Green and Sellers, 1964; U.S. Department of Commerce, 1972).

Figure 1. Areal extent of Great American Desert and North American Prairies within the United States. (From: Rand McNally, 1985; The Times, 1980; Trewartha, 1954; U.S. Air Force, 1965.)



**TABLE 1**  
**Environmental Conditions in Selected Western Cities in Comparison to Tucson**

Region	Mean January Temperature (°F)	Mean July Temperature (°F)	Annual Precipitation (in.)
<b>ARID WEST</b>			
Barstow	46	84	4.0
El Paso	43	72	8.0
Kingman	43	82	10.6
Las Vegas	43	90	3.8
Phoenix	52	91	7.7
Yuma	55	91	3.4
<b>TUCSON</b>	50	86	10.9
<b>SEMIARID WEST</b>			
Albuquerque	35	78	8.4
Amarillo	37	78	21.0
Billings	23	73	13.0
Denver	30	73	14.0
Reno	30	67	7.2
Spokane	25	70	17.2
Yakima	28	70	7.0

Tucson, Pima County's largest city, is located in the heart of the Great American Desert region at an elevation of 2430 feet above mean sea level. It has 10.9 inches (277 mm) of precipitation annually. The mean daily maximum temperature in July is 99.6°F and the mean daily minimum in January is 35.2°F.

These climatological conditions match conditions at other locations in the arid west and even some in the Great Basin, although for shorter segments of time, even though the winter extremes of the northern prairies are not reached.

### C. VEGETATION

Although thought of by many as being a vast wasteland with endless miles of scrubby, uninteresting vegetation, the arid west is floristically diverse. Even the non-mountainous lowlands support a wide array of plant communities and associated wildlife species. The evolutionary history of western arid land plant communities is a subject of considerable interest, especially when one considers that true desert scrubland vegetation types are among the youngest plant communities in North America.

These arid lands developed synchronously during the last 10,000 years as apparently the Aleutian low and winter storm tracks migrated northward (Turner and Brown, 1982). During the Tertiary, North American vegetation was made up of three great Geoflora; to

the north was the mixed conifer and deciduous Arcto-Tertiary Geoflora, to the south the mesophytic broad-leafed evergreen Neotropical-Tertiary Geoflora, and sandwiched between the emerging sclerophyllous and microphyllous Madro-Tertiary Geoflora which appeared on drier sites within the Neotropical-Tertiary Geoflora. As climatic changes progressed, the more mesic woodland species of genera such as *Juniperus*, *Artemisia*, and *Pinus* shifted their occurrence both latitudinally and elevationally, while other genera such as *Atriplex* and *Artemisia* underwent extensive species radiation. Creosotebush (*Larrea tridentata*) spread rapidly to colonize large expanses of the arid west. While the affinities of much of the vegetation in Pima County are with species from the south, representative species derived from the north may be found. Indeed, the vegetation of the Tucson Basin is a mix of species derived from both northern and southern floras.

Western riparian and deciduous forests are considered to be modern, water-controlled relicts from these late Tertiary forests (Lowe and Brown, 1982). Cottonwood-willow forests and mesquite bosques occur throughout the southwest in each of the three great southern deserts as do the emergent aquatic species such as cattail (*Typha* sp.) and reeds (*Phragmites* sp. and *Arundo* sp.). Species of *Acacia*, *Cercidium*, *Prosopis*, and *Baccharis* occur from southern Texas to southern California. The similarity of the riparian vegetation has led to similarities in the vertebrate and invertebrate fauna using these areas. Fish genera such as the chubs (*Gila*) and suckers (*Catostomus*) occur in streams from the Rio Grande basin to the Colorado (Minckley and Brown, 1982). The Sonoran Mud Turtle (*Kinosternon sonoriense*) occurs in permanent waters from west Texas to the lower Colorado River.

#### D. RIPARIAN PLANT COMMUNITIES IN THE TUCSON BASIN

Riparian plant communities are defined by Lowe (1961, 1964) as any plant association that occurs in or adjacent to drainageways and/or their floodplains, and which is further characterized by species and/or life-forms different from that of the immediately surrounding non-riparian climax. In the Tucson Basin, indeed, throughout the arid west and southwestern United States, riparian woodlands are characterized by a complex of tree species and their associated plant and animal forms that are restricted to major drainageways that cross the arid, lowland landscapes upward into forest habitats.

Riparian habitats and their unique and highly diverse assemblages of plants and animals exist solely because of the greater availability of water, present as either surface or shallow subsurface flow. Human use of water in the arid western United States has resulted in the demise or significant alteration of most riparian habitats in the region. Some authors suggest that as much as 90 percent of the riparian habitats that occurred in Arizona during pre-settlement times have been destroyed or altered (Jakle, 1992; State of Arizona, 1991). While controversy exists whether 90 percent is an accurate estimate, the fact remains that virtually all authors acknowledge a serious diminution of healthy riparian habitats in the west, particularly in the lowlands. Conservation of existing riparian areas and rejuvenation of damaged ones is a high priority with many agencies, groups, and individuals.

The riparian habitats of the Tucson Basin are used as examples of the kinds of plant communities that occur on drainageways. Variations on the theme occur throughout the west, but the distinguishing characteristics of riparian habitats regionwide are similar.

**Mixed Broadleaf Associations:** On upland sites below about 1500m elevation, a riparian community composed of as many as five winter-deciduous broadleaf trees may occur. This mixed broadleaf association may contain walnut (*Juglans major*), sycamore (*Platanus wrightii*), velvet ash (*Fraxinus pennsylvanica*), Fremont cottonwood (*Populus fremontii*), and willow (*Salix gooddingii*, *S. bonplandiana*, and others). The association usually occurs where stream channel gradients are steeper, deposition of alluvium is patchy, bedrock (or components thereof) is exposed, and flood events are characterized by higher velocity downslope movement of water. In the Tucson Basin, this type, or elements of it, occur in most mountain canyons and in stream channels that dissect the upper bajadas at the foot of mountain ranges like the Santa Catalinas, Rincons, and Santa Ritas. In Arizona and New Mexico, this community type may have escaped some of the negative impacts that have befallen the lowland cottonwood-willow associations simply because of its position in the regional landscape (e.g., on more upland, rocky sites). Significant pieces of this type have, however, probably been lost to inundation resulting from dams and most are presently degraded due to livestock grazing and, in some locales, severely affected by human recreational use.

**Cottonwood-Willow Associations:** Cottonwood-willow (*Populus-Salix*) gallery forests as described here include the *Populus fremontii*, *Populus fremontii-Fraxinus pennsylvanica*, and the *Populus fremontii-Salix gooddingii* community types of Szaro (1989). These represent the classic Fremont cottonwood-Goodding willow, and Fremont cottonwood-velvet ash communities that occur along the lower reaches of major drainageways in southern and central Arizona. Riparian habitats in which Fremont cottonwood is a dominant species are also present in New Mexico, Texas, Nevada, and California. Cottonwood-willow forests occur on alluvial sands, clays, and gravels along drainageways where perennial surface flows are characteristic. The type also occurs (persists) in situations where surface flow is not perennial, but the alluvial water table is shallow thereby providing the plants with readily available water throughout the year. This type is characterized by large, winter deciduous trees and is highly dependent on periodic flood events for seed germination, seedling establishment and, therefore, population recruitment.

Many cottonwood forests in the west that are situated on streams where flooding has been eliminated are decadent and in decline. In the Tucson Basin, examples of this association can be found on Sabino Creek, Cienega Creek, Tanque Verde Creek, locally on Rillito Creek, and along some reaches of the Santa Cruz River downstream from Tucson.

**Mesquite Bosque or Woodland:** Mesquite bosques are xeroriparian or pseudoriparian communities in the sense of Campbell and Green (1968). Mesquite (*Prosopis* sp.) is considered to be a pseudoriparian or facultative riparian species because it is able to complete its life cycle on dry, upland sites. The species does, however, attain greater stature and density along drainageways where it may occur in dense woodlands with a high degree of canopy closure. It is common for mesquite bosques to occur on terraces immediately above stream channels that are occupied by cottonwood-willow or cottonwood-velvet ash associations. In areas where stream flow is intermittent and/or subsurface water is not readily available, the dominant drainageway species is often mesquite with few or no individuals of cottonwood, willow, or ash. Mesquite occurs on virtually all drainageways,

regardless of size, in the Tucson Basin and throughout the lowlands of New Mexico, Texas, southern Nevada, and parts of southern California.

**Desert Wash Communities:** At the lower end of the water availability scale in the Tucson Basin and in other areas in the arid west, are the normally dry wash or arroyo communities that carry water only for brief periods during rainfall events or, in the case of larger washes, during a few weeks in the spring when snowmelt from surrounding mountain ranges is present.

The plant communities that occur along such washes are not riparian in the true sense. However, vegetation growing along washes is usually taller in stature and more dense, and wash communities appear clearly different from the surrounding upland plant communities. The species that occupy wash margins are usually the same as those occurring on adjacent uplands. Their larger stature and greater density is simply a matter of water availability. Species such as blue paloverde (*Cercidium floridum*), ironwood (*Olneya tesota*), catclaw (*Acacia greggii*), and white-thorn (*A. constricta*) are common wash species, but none is an obligate riparian species. One species, desert willow (*Chilopsis linearis*), that occurs in normally dry wash channels probably approaches being a riparian obligate, but is well adapted to survival in the dry, sandy soils of washes.

#### **E. THE SANTA CRUZ RIVER AS AN EXAMPLE**

The Santa Cruz River of southern Arizona drains the Santa Cruz Basin north to the Gila River. Streams draining the Canelo Hills, Patagonia Mountains, the eastern slope of the Sierrita Mountains, the Santa Rita Mountains, and a limited watershed in northern Sonora, Mexico enter the Santa Cruz River channel south of Tucson. Historically, water in this portion of the river disappeared underground in the vicinity of Tucson. The Rillito River, draining the south slope of the Santa Catalina Mountains and the Rincon Mountains, also had perennial flow historically and enters the Santa Cruz north of Tucson. There is no evidence that perennial surface flows in the Santa Cruz River extended to its confluence with the Gila River, some 100 miles north-northwest of Tucson (Hendrickson and Minckley, 1984). Indeed, most historic accounts of the river indicate that it was intermittent through and north of Tucson.

The history of habitation and agricultural use along the Santa Cruz predates the 17th century. Irrigation has occurred since at least 1689 and continues today. Livestock grazing, agricultural developments, alterations to floodplains, and other human activities have been features of the Santa Cruz basin throughout recorded history. Many of the changes wrought by human endeavors are reflected in riparian communities and relicts thereof that currently exist along the river.

Perennial flow in the main channel south of Tucson from the United States-Mexican border to Tubac has been historically documented and now exists in only a few stretches on creeks within the Santa Cruz basin. Intermittent conditions historically existed downstream as far as Tucson; flow in the Tucson vicinity is now ephemeral. Marshlands, cienegas, and cottonwood-willow forests with associated mesquite bosques which flourished in the 1800s are no longer evident due to a number of factors, probably acting synergistically, including

groundwater draw-down, diversion of flow for agricultural use, livestock overgrazing, flooding and increased erosion at man-made structures (Hendrickson and Minckley, 1984; Hastings and Turner, 1965). The disappearance of extensive riparian and wetland vegetation along the Santa Cruz immediately south of Tucson has occurred since the 1950s. Remnants of the cottonwood-willow forests and mesquite bosque habitats were still present near the Mission San Xavier del Bac in the middle 1960s.

#### **F. EFFLUENT DISCHARGE CHARACTERISTICS IN THE SANTA CRUZ RIVER**

As in many other effluent-dependent streams, the flow of effluent in the Santa Cruz River downstream from Tucson approximates 100 percent of the flow for over 90 percent of the year. During the dry part of the year, the stream flows for only several miles before the channel becomes dry due to irrigation withdrawals, evaporation, and groundwater recharge. Immediately upstream of the Tucson area wastewater treatment plant discharges, the river bed is dry, containing running water only after significant rainfall events. There are no resident fish populations in this environment, either upstream or downstream of effluent discharge points. There are abundant bird, amphibian, and mammal species that depend on the aquatic and riparian habitat created by the discharge of treated effluent to this segment of the naturally ephemeral stream. As a component of the riparian habitat that is supported by effluent flows, there are numerous species of semi-aquatic and terrestrial plants that would not be present in the absence of effluent flows. Above and below this effluent-dependent reach, streamside habitat is composed primarily of desert species in relatively low abundance.

The Santa Cruz River is representative of EDE streams regionally. EDE streams exist throughout the arid west and many support regionally sensitive and valuable assemblages of plants and wildlife.

#### **G. EFFLUENT UTILIZATION IN PIMA COUNTY**

Facility planning projections for the metropolitan Tucson area show the volume of wastewater effluent to double by the year 2010. In 2010, it is estimated that 100 million gallons per day (MGD) of wastewater will be available to maintain riparian habitats, support agriculture, provide for turf irrigation and park land development, and recharge the groundwater for future use.

Metropolitan Tucson and the surrounding areas are dependent, in part, on groundwater. As a result, groundwater conservation is a high priority. There is an aggressive water conservation program in place to achieve reductions in overall per capita consumption rates. One component of water conservation is the use of effluent or reclaimed water for irrigation that would otherwise deplete drinking water sources. The use of effluent or reclaimed water preserves groundwater supplies for the future.

#### **H. STORMWATER CHARACTERISTICS IN THE SANTA CRUZ RIVER**

The hills and mountains east and south of Tucson have high runoff coefficients due to the steepness of the terrain and the rocky character of the slopes. Flash floods are common in

the July monsoon season when torrential rains occur almost every afternoon, especially in the mountains. Winter rains are less regular and less abrupt, still there are commonly bank-full flows as the ground in the valleys become saturated and high rainfall events occur in rapid succession. Both above and below Tucson, the flow in the river can reach flood levels within days of first rainfall as flows dramatically increase from zero to over 60,000 cubic feet per second, summer or winter.

There is significant direct overland flow on the lower part of the watershed from the base of the foothills to the main channel. The general absence of separate stormwater sewers in the area also allows storm flows carried on paved streets to overflow the gutters and flow over residential yards and parks on the way to the river. In addition to the usual contamination of stormwater runoff by street washings, additional stormwater contamination occurs from overland flow across the very large number and acreage of golf courses in Pima County. Pesticides and fertilizers would be expected in stormwater entering the channels near irrigated lands and residential areas.

Stormwater flows are typically also very turbid. The vast majority of low relief terrain in the watershed below the foothills is fine grained, low organic content soil with sparse vegetation due to the absence of irrigation and the naturally arid climate. Although this soil type allows for rapid and effective recharge, the process quickly becomes rate-limited and overland shear flow is sufficient to cause particle transport. Similarly, tributary and main channel bank erosion carries off enormous soil quantities. Turbidity in even modest storm flows typically reduces water column visibility to a few inches.

Riparian and in-stream habitats are severely stressed by storm events in arid environments, both by the force and turbidity, and possibly by the chemical contamination carried in storm flows. Water quality criteria for EDE streams should take this into account. Research to develop the criteria needs to be done in environments where these events can be reproduced in proper scale, and in actual environments such as segments of the Santa Cruz River.

Additional examples of EDE streams in the west are provided in Appendix A. Some of these examples contain information on the benefits of effluent discharges and the absence of environmental problems associated with treated wastewater discharges.

## V. LITERATURE REVIEW ON TREATED WASTEWATER DISCHARGES IN RELATION TO EDE STREAM SYSTEMS

Published reports, scientific articles, and theses on the topics of riparian habitats, ephemeral streams, and sewage effluent management have been reviewed. The formal literature catalogued in standard databases<sup>1</sup> was searched most thoroughly, due to the availability of computer searchable databases. The gray literature has been accessed less comprehensively due to the greater time required to obtain listings and selected reports.

These were searched for the topics of: ephemeral streams or water, water quality and southwest or Arizona, riparian habitats and species and sewage effluent. Organizations that were contacted for additional information included the Southern Arizona Water Resource Association, (SAWARA); the Center for Environmental Studies at Arizona State University; the Southwest Technology Development Institute (Las Cruces, NM); the Arizona Riparian Council; U.S. Geological Survey, and the Water Resources Research Center at the University of Arizona. Only papers specifically cited in this report are listed in the **REFERENCES** section.

Articles by the Agricultural Research Service (ARS) on the well-instrumented Walnut Gulch Experimental Watershed, near Tombstone, Arizona, represent the most comprehensive body of literature on ephemeral streams in the arid southwest, e.g., Keppel and Renard (1962), Renard et al. (1964), Osborn and Renard (1973), Wallace and Lane (1978), and Lane (1982). The history of arroyo cutting, particularly of the Santa Cruz River, is well documented e.g., Hastings (1959), Hastings and Turner (1965), Betancourt and Turner (1988), Bryan (1925), Condes de la Torre (1970), and Cooke and Reeves (1976).

Other studies focus on groundwater recharge from ephemeral streams e.g., University of Arizona (1979), Abdulrazzak (1982), Burkham (1970), Flug et al., (1980), Heggen (1988), and Stephens (1988).

Although these studies do not directly address the primary topic of consideration, they may be essential to understanding the nature of ephemeral streams in general.

Most of the water quality literature is composed of reports on the constituents of perennial streams e.g., Collins and Love (1942), Love (1957), and USGS (1972) in the United States

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<sup>1</sup> ARS SOUTHWEST WATERSHED RESEARCH CENTER PUBLICATIONS (1959-1991)  
CCOD-Current Contents on Disk (January-May 1992)  
BIOSIS(1989-1992)  
AGRICOLA(1979-1991)  
NTIS(1983-1991)  
CAB(1984-1990)  
WATER RESOURCES ABSTRACTS (1967-1992)  
U.S. PH.D. DISSERTATIONS (1861-Dec 1991)  
U.S. MASTER'S THESES (1988-Dec 1991)  
UNIVERSITY OF ARIZONA MASTER'S THESES (1981-1987)  
GEOREF (1785-1991)  
WATSTORE (USGS Publications) (1915-Present)

or the Colorado River Basin; the quality of irrigation water e.g., USGS (1969), Love (1954), Kister (1970), and Love (1961); and the impact of agriculture on surface water quality e.g., Spencer et al. (1985), Gillion et al. (1985), and Barnum (1984).

There have been a considerable number of studies on sewage effluent recharge in the Santa Cruz River e.g., Herbert (1976), Ince et al. (1980), Sebenik et al. (1972), and Miller (1990). Some have reached the conclusion that the quality of water in the aquifer may be improved by the infiltration of these waters (Sebenik, 1972; Wilson, 1975). Tinney (1987), however, expressed concerns about the increased salinity that may result from recharge of Central Arizona Project (CAP) water directly or as a component of sewage effluent. CAP water is carried by uncovered surface aqueducts from the Colorado River and began replacing groundwater as Tucson's municipal water supply in late 1992. This water has more than twice the total dissolved solids as the previous water supply.

#### **A. WATER QUALITY CRITERIA TO PROTECT ECOSYSTEMS OF EDE STREAMS**

Only a few publications were found on the specific topic of developing water quality criteria for the discharge of sewage effluent into ephemeral streams, such as the Zander and Jennings (1986) site-specific water quality criteria study for the Santa Cruz River in Pima County, Arizona. They concluded that the riparian habitat and animal community was dependent on the effluent flow and that water quality criteria to protect agricultural livestock were attainable and appropriate.

Several studies border on the topic of appropriate water quality criteria, such as: Ince et al. (1980), and Rea (1988). The emphasis of the former study is on the quality of recharged groundwater and the latter on the restoration of a riparian habitat by the introduction of treated sewage effluent into a stream. Neither considers the benefits or drawbacks of specific constituents of the effluent. Rea's paper clearly demonstrates the benefits to the riparian habitat gained by discharging effluent into an ephemeral stream.

Sullivan (1991) determined that roots of *Tamarix chinensis*, *Salix goodingii*, and *Typha domingensis* irrigated with secondary effluent in a riparian community downstream from a municipal discharge into the Salt River near Phoenix, Arizona accumulated metals, suggesting that these species might be useful for removal of metal contaminants prior to other uses of the water.

#### **B. RIPARIAN HABITATS**

The spectrum of flora and fauna in riparian habitats is broader than might be expected at first glance e.g., Best et al. (1979), Brown et al. (1981), Carothers et al. (1977), Hendrickson and Minckley (1984) and Medina (1986). The literature demonstrates that these habitats in the arid west of the United States are themselves endangered. Development of water resources for municipalities or agriculture has led to arroyo cutting and lowering of water tables transforming tranquil perennial brooks into ephemeral streams which have dry beds most of the year except during periodic and often torrential floods e.g., Brock (1987), McGlothlin et al. (1988), Betancourt and Turner (1988), Cooke and Reeves (1976), Rhoads (1990), and Hastings (1959).

Some of the existing perennial streams in Arizona and their associated riparian vegetation and wildlife may be preserved via establishment of "instream water rights" to these waters (Kulakowski and Tellman, 1990), otherwise, the outlook for these endangered habitats looks bleak, with the exception of where sewage effluent has restored some of the original habitat (Zander and Jennings, 1986; Rea, 1988). Thus the benefits of effluent creating or recreating these habitats must be an essential element in the development of water quality criteria for the discharge of sewage effluent into ephemeral streams.

### C. SPECIES OF INTEREST FOR DEVELOPMENT OF APPROPRIATE CRITERIA

Every species mentioned in reviewed papers was entered into a master list of those that might be appropriate for criteria development. Copies were provided to the EPA laboratories in Corvallis, Oregon and Duluth, Minnesota to solicit their guidance in narrowing the list to a more manageable size. Of the mammals, none presents a particularly compelling case for inclusion in potential research lists. While some species may have direct contact with effluent and a diet which includes prey having similar contact, most species of mammals living in the southwest lowlands are likely to be relatively unaffected by effluent contaminants due to minimal contact.

A tentative short list of vertebrates (Table 2) excludes those species which would be unlikely to exhibit response to water quality variables, all non-native species, and many of those which can be found in a wide variety of habitats or environments. Species with broad tolerances to environmental conditions will be unlikely to be useful in developing water quality criteria. To be included in this list a species must have fairly widespread distribution in the region and not be vulnerable to variations in hydrological conditions (able to withstand periodic flooding, etc.). Species most likely to be affected by contaminants in effluent would be those species with direct contact with the effluent and effluent-contaminated sediment and those which consume material contaminated by effluent constituents.

Among the fish species listed in Table 2, the longfin dace (*Agosia chrysogaster*) would be a strong candidate for toxicological testing. Other potential candidates would include the chubs (*Gila* sp.) or suckers (*Catostomus* sp.). Of the reptiles and amphibians, two of the most attractive species are the leopard frogs (*Rana yavapaiensis* or *R. chiricahuensis*). Populations of these two frogs are considered to be in some jeopardy: *R. yavapaiensis*, the lowland leopard frog, is a candidate for listing among the threatened native wildlife of Arizona, and *R. chiricahuensis*, the Chiricahua leopard frog, is currently listed as a threatened species (Arizona Game and Fish Department, 1988). Despite the attractiveness of these aquatic frogs as potential research organisms, there are several other native amphibian species that may be of equal, or greater, value. Common, indigenous amphibians that offer good research potential include the group of semi-aquatic toads in Table 2. Relative to this group of fairly common toads, investigations of larval (tadpole) responses to various contaminants and toxics might be particularly illustrative. Of the reptiles, the Sonoran Mud Turtle should be included. Other potential reptiles could include garter snakes, which are semi-aquatic.

**TABLE 2**  
**Species of Potential Use in Water Quality Criteria Development**

Longfin Dace	<i>Agosia chrysogaster</i>
Gila Chub	<i>Gila intermedia</i>
Roundtail Chub	<i>G. robusta</i>
Suckers	<i>Catostomus spp.</i>
Couch's Spadefoot Toad	<i>Scaphiopus couchii</i>
Western Spadefoot	<i>S. hammondi</i>
Plains Spadefoot	<i>S. bombifrons</i>
Great Basin Spadefoot	<i>S. intermontanus</i>
Great Plains Toad	<i>Bufo cognatus</i>
Woodhouse Toad	<i>B. woodhousei</i>
Red-spotted Toad	<i>B. punctatus</i>
Sonoran Desert Toad	<i>B. alvarius</i>
Lowland Leopard Frog	<i>Rana yavapaiensis</i>
Chiricahua Leopard Frog	<i>R. chiricahuensis</i>
Sonoran Mud Turtle	<i>Kinosternon sonoriensis</i>
Garter Snakes	<i>Thamnophis spp.</i>
Mallard	<i>Anas platyrhynchos</i>
Black-bellied Whistling Duck	<i>Dendrocygna autumnalis</i>
Ring-necked Duck	<i>Aythya collaris</i>
Wood Duck	<i>Aix sponsa</i>
Coot	<i>Fulica americana</i>

Of the bird species listed, it is primarily the ducks, shorebirds, and coots which are likely to have sufficient contact with effluent water to be examined as possible research species.

Invertebrate groups that might be of interest and value as research subjects include members of the insect families Gyrinidae (whirligig beetles), Dytiscidae (diving beetles), Hydrophilidae (water scavenger beetles), Belostomatidae (giant water bugs), Corixidae (water boatmen), and Notonectidae (backswimmers). Many of these forms are opportunistic in their life cycles and occur in intermittent and ephemeral waterways in the western United States. Other invertebrates that could be utilized include local populations of crayfish, Tubificid worms, Amphipods, and mollusks.

In addition to species of vertebrates and invertebrates, species of algae may be of value in water quality research efforts. At present, the information on algal species is not sufficient to allow a selection of those that might be valuable for experimental use. The existing literature on algae found in the southwestern United States, and Arizona, in particular, is neither large nor impressive. Inclusion on the list was dependent upon the alga being macroscopic or occurring in macroscopic formations, aquatic (species characteristic of hot springs and soil algae not included), and known to occur in Arizona. Cameron (1963) notes that the algae of Arizona are representative of species found throughout the southwest. Species listed by Cameron (1961, 1963, and 1964) were checked against those found in Utah (Rushford and Merkle, 1988) and a broad convergence of genera and species was apparent.

A survey of algae of the Santa Cruz River should be undertaken during the early stages of any water quality criteria work to assist in reducing the list of candidate species. Table 3 presents a listing of genera and species that may occur in the Santa Cruz River Basin.

**TABLE 3**  
**Species of Algae Common in Southwestern Streams**

<u>Diatoms</u>	<u>Green Algae</u>	<u>Blue-Green Algae</u>
<i>Achnanthes exigua</i>	<i>Cladophora</i> spp.	<i>Scizothrix</i> spp.
<i>Gomphonema parvulum</i>	<i>Tetraspora gelatinosa</i>	<i>Anabaena variabilis</i>
<i>Navicula pupula</i>	<i>Microspora</i> sp.	<i>Anacystis</i> sp.
	<i>Ulothrix tenerrima</i>	<i>Entophysalis</i> spp.
	<i>Draparnaldia plumosa</i>	<i>Nostoc</i> spp.
	<i>Stigeoclonium tenue</i>	<i>Amphithrix janthina</i>
	<i>Oedogonium macrospermum</i>	<i>Calothrix parietina</i>
	<i>Hydrodictyon reticulatum</i>	<i>Dicothrix baueriana</i>
	<i>Spirogyra teodoreschii</i>	<i>Tolypothrix</i> sp.
	<i>Zygnema</i> sp.	<i>Lyngbya</i> spp.
	<i>Tolypella glomerata</i>	<i>Microcoleus</i> spp.
		<i>Oscillatoria</i> spp.
		<i>Phormidium</i> spp.
		<i>Plectonema nostocorum</i>

#### **D. THE FATE OF EFFLUENT CONSTITUENTS IN EPHEMERAL STREAMS**

Only a small sample of the abundant literature that could be tapped to assess the polishing of the quality of effluent discharged into ephemeral streams by riparian vegetation has been reviewed. Nutrient removal from effluent streams is well documented in this literature, however, most citations relate to areas of the country that have considerably more precipitation and, therefore, different habitats. A great deal of information is available on the transformation of nitrogen in municipal effluents known to occur in natural streams and wetland settings, e.g., Seidal (1976); Spangler et al. (1976); Tilton et al. (eds.), (1976); Boyt et al. (1977); Sloey et al. (1978); Kadlec and Tilton (1979); Rogers (1985); and Rogers et al. (1991). The modification of the nitrogen content of the recharged effluent by the soil has been the subject of several studies, some in the Santa Cruz River (Herbert, 1976; Ince et al., 1980; Lance, 1975; Osborn, 1987).

Until recently, the inference that nitrogen was removed by plants was based on nitrogen balance measurements in constructed wetlands while more direct experimental studies indicated that microbial metabolism, facilitated by the plant's ability to transport oxygen to the root zone, was responsible for nitrogen removal (Rogers et al., 1991). It must be assumed, however, that especially in nutrient-poor soils typical of the arid southwest, the plants would utilize available nitrate, given other environmental factors conducive to growth. Recent experimental work by Rogers et al. (1991), and work they cite by Breen (1990), demonstrates that plants play an active role in direct removal of effluent nitrogen in

simulated wetlands. Research needs to be conducted in the arid west to verify the importance of nutrient-rich effluents in protecting riparian habitats.

## VI. DEVELOPING THE RESEARCH PLAN

### A. DATA AND METHODS NEEDED

Although it has been recognized for the last decade that there is sound justification for modification of national water quality criteria to apply to local situations, it is only fairly recently that recognition of area-wide rather than site by site considerations began to warrant attention. Water hardness as a characteristic of streams was one of the first considerations for a general class or type of modification. Then saltwater criteria were considered to replace the application of freshwater criteria in marine settings. Recently, the Great Lakes were considered as requiring separate attention, and now there is growing support not just in the west, but nationwide, for criteria to protect environments associated with conditions in the arid west.

As described above, methods available to develop appropriate criteria, including by modification of national criteria, suffer from several shortcomings:

- The EPA methods and criteria focus on aquatic species, whereas non-aquatic riparian species have a higher ecological value to EDE streams. Thus the EPA's national criteria may not represent even an approximate starting point as a basis for modification.
- Site-by-site studies are difficult to conduct, frequently producing data unacceptable to the EPA.
- Site-by-site studies require the expenditure of significant funds at each site that warrants attention, even along the same stream.
- A potential exists for inconsistent criteria to result from individual site-by-site studies at different locations within environmentally similar habitats.
- Consideration of stormwater impacts and water reuse potential have not been woven into the fabric of lab and field studies needed to generate criteria data.
- Dose response data for wildlife and riparian species representative of the arid west have not been reported in scientific papers and may not be available.

A research plan to improve the database and methods to develop appropriate criteria and standards for EDE habitats in the arid west should attempt to overcome these impediments. Research results would include scientifically credible dose-response data acceptable to regulatory agencies for establishment of criteria and standards for EDE streams, as well as permit controls for discharges to EDE streams. As uniform as conditions are in many parts of the arid west, it is likely that within the two major geographic regions shown in Figure 1 there will be differences associated with specific discharges and local habitats. Certainly, between arid lands in eastern Washington and southern Arizona, there would be differences that may or may not be important to consider in developing criteria. Thus to develop the data, these differences may require the use of several methods.

The central thrust of a research plan to address the problem effectively and minimize the overall cost is to concentrate a major portion of the technical effort at a central location, and to conduct supplementary and confirmatory investigations at field locations. A centrally-located facility in the arid west would optimize the use of funds for specialized experimental equipment that could not reasonably be replicated at all the sites where data would need to be collected. The facility could be developed to meet the strict quality assurance/quality control standards demanded by the EPA, thus reducing the problem of the EPA rejecting the results of studies as has occurred in the past. The facility should represent exposure conditions and environmental settings of a wide range of sites in the arid west, and some capability for modification to handle new or unusual challenges. The premise is that there are many very similar situations throughout the region and a central facility, working on the most generalized types of problems, could generate data that would be useful for criteria at many if not most locations.

Some fine tuning of generalized results may be necessary, however, for final standards. Field observations at some locations could be conducted, but they should be less expensive to do than if a complete study had to be conducted at each site. Alternatively, or additionally, fine tuning could be conducted at the central facility, taking advantage of specialized equipment that might be modified.

For confirmation of actual environmental effectiveness and to provide data on emerging problems, field studies would likely be required by local regulatory authorities. Results of these studies should provide a valuable feedback loop for maintaining and improving the regional value of the central facility. A key design factor for the facility and for the experiments conducted over time should be to maximize the potential for region-wide application of results. A secondary, but nearly equally important factor, should be flexibility of the facility so that many locally important but less generally-applicable problems can be researched in the facility. If only 10 to 20 percent of the study effort needs to be done on-site that previously was required by the EPA site-specific guidelines, there would be great economies for the region as a whole. In this way, the research effort conducted at the central facility would replace the 80 to 90 percent of effort that would otherwise have to be done at each site and it could be applicable at all the sites.

The types of studies and kinds of equipment and facilities that should be considered at a central location are discussed in more detail below.

#### **B. IDENTIFICATION OF KEY SPECIES OF REPRESENTATIVE ECOSYSTEM COMPONENTS**

In addition to information obtained from national, state, local, and scientific organizations regarding species to be protected, and candidate species for study, a series of field observations could be conducted specifically for this purpose. A survey of effluent-dependent sections and similar sections of streams without effluent may highlight the effluent induced species. A comparison of the whole spectrum of potential species with those found in effluent-dependent streams (this would include those that would occur

naturally in ephemeral streams plus those induced by the effluent) might turn up some differences that might be explained by the following (not necessarily comprehensive):

1. Species are not in the area.
2. Species do not use a stream frequently.
3. Insufficient water to support species.
4. Concentration of some constituent of effluent is toxic to species.

Focus could then be given to studying species that may not be found due to option 4. Toxicity studies could then be conducted on those species whose growth or presence is suspected of being inhibited by the effluent discharge.

Selection of species for acute and chronic dose response studies may require consideration of surrogate species needed due to protocol restrictions and ecological concerns.

### C. RESEARCH METHODS

**Lab-Scale Dose-Response Studies:** Most of the extant water quality criteria have been developed on the basis of laboratory dose-response experiments. Results of lab studies and other relevant information are evaluated according to criteria development guidelines established by the EPA (Stephan et al., 1985). While these guidelines are currently being revised, they are not likely to include methods or data specifically applicable to EDE streams (G.A. Chapman, pers. comm., July 31, 1992). The list of species used in exposure studies that will be updated in the revised guidelines report may be useful to consider for selection of appropriate dose-response study organisms, either for purposes of demonstrating quality assurance, or for generation of directly applicable data. The data for the revised report are expected to be available to scientists for use in designing appropriate experiments in advance of a final report.

A central, arid west research facility would likely include laboratory dose-response experiments in its repertoire of methodologies (either in-house or through contracts) to develop water quality criteria for the arid west. Laboratory dose-response studies are expected to be a primary source of data the EPA would rely on to develop or endorse water quality criteria for aquatic species for the near future. Protocols are fairly well established (Peltier and Weber, 1985; Weber et al., 1989), and regulatory agencies are likely to have a high degree of confidence in data generated by standard protocols. Many university and commercial laboratories are able to conduct large numbers of experiments with substantial replication using these protocols and can turn out results rather quickly and economically. Aside from logistics, laboratory dose-response studies can be closely controlled so that biological responses can be more clearly related to unique chemical concentrations and species. Since as many replicates as may be required for statistical analysis of hypotheses can generally be provided, the power of experimental designs can be matched to the importance of the question being addressed.

**Microcosms and Mesocosms:** Data obtained from many laboratory experiments are limited because of the absence of natural exposure features that are known to affect the temporal and spatial behavior of the contaminant being tested and the biological resource at risk.

Recognizing the need for more realistic exposure scenarios the EPA and other environmental scientists began constructing model ecosystems, commonly referred to as microcosms and mesocosms, to generate data that might be more representative than previous *in vitro* studies, yet preserving some of the control features that are important in establishing causal relationships. Frequently, these model ecosystems incorporate a sediment layer and representative plant species even though the target organism might be a nektonic or planktonic aquatic animal. While these experimental chambers may still be small enough to be bench-top units, they usually have monitoring and control features that limit the number of replicates that can be provided compared to simpler dose-response systems.

At this stage of research planning, no definite conclusion to use laboratory scale model ecosystems or to discount their use should be made. Rather, the plan of action should be to describe the need for data on environmental impacts for certain contaminants and target organisms, and consider all avenues of investigation to acquire the data most relevant for regulatory management. It is thus quite likely that microcosms and mesocosms could be considered.

The words microcosm and mesocosm by themselves convey no information about the size of the experimental units. The EPA has supported research work aimed at regulatory improvement using experimental ecosystems varying in size from several liters to several thousand gallons (University of Rhode Island Narragansett Bay Mesocosms). The larger they are, of course, the more expensive it becomes to provide multiple units for substantial replication in rigorous experimental designs. Expense is not the only consideration as scale-effects also may influence chemical and biological effects (Perez et al., 1991).

The appearance of model ecosystems used in generating data is generally not as important as is the effective mimicry of the exposure regime experienced in nature by the experimental organism. Thus a model of Narragansett Bay may have the appearance of a metal grain silo and the vertical mixing of contaminants from the sediments throughout the water column that occurs in nature may be appropriately accomplished by motor driven mixing paddles, rather than the wind and tides. Other models of natural processes may more closely resemble the appearance of the natural system under investigation, such as the EPA experimental streams at Monticello, Minnesota.

**Experimental Streams:** Large ecosystem models, such as the experimental streams at Monticello, play an important role in the scope of studies that need to be conducted to generate regulatory criteria appropriate for real-world situations. The major advantage of experimental streams over laboratory studies is the order of magnitude improvement in realistic representation of natural processes that influences the results. A disadvantage is that the range of natural variations in environmental parameters results in a low signal to noise ratio so that subtle impacts may not be readily seen. Consequently, it is necessary to have as many replicates as possible in experimental stream segments to increase the power of statistical analysis of results. It is also necessary to include laboratory dose-response studies at some point in the study of pollutant effects in order to reduce the variance and improve the chances of inferring subtle impacts.

Experimental streams also offer the opportunity to investigate the combined impact of several independent variables, such as certain metal and nutrient concentrations on one or more ecosystem components. While conceptually these experiments could be simulated in lab settings, they very seldom are. The fundamental basis of the EPA water quality criteria is, at least tacitly, that the effects of individual pollutants are non-interactive, or if there is interaction, the effect is presumably incorporated in the magnitude of application factors associated with each criterion value. For this reason alone, it would seem that experimental streams could justify the expense for construction and operation to define realistic water quality criteria for effluent constituents for situations where combined effects are likely to be either strongly additive or antagonistic (U.S. EPA, 1985b).

The rationale and design for a simulated stream system that is envisioned as a major feature for the generation of criteria data for the arid west should include a review and evaluation of operational and experimental results obtained at similar facilities (Monticello, Minnesota; University of Rhode Island, Savannah River; etc.). Selected facilities should be visited, and discussions should be arranged with scientists familiar with the pros and cons of research results from these facilities. Their critical review and constructive suggestions regarding the needs of the arid west communities and approaches to achieving the desired results would be a useful adjunct to design of a central facility.

The essential conceptual features of a series of experimental streams that would serve many of the needs in the arid west, and most of the ones in the southwest, include channels representative of four basic habitat types: xeric riparian, mesquite bosque, cottonwood-willow gallery, and cienega. Operational features would include the ability to add secondary effluents and pilot plant effluents treated to varying degrees at variable flow rates, as well as stormwater runoff. An ability to amend effluents with supplemental chemical constituents would be consistent with the EPA's 1992 guidance on modifying metal criteria. A critical element in the planning discussions is the need to provide substantial flexibility so that a variety of experiments can be accommodated including possibly studies of bioaccumulation, sediment interactions, long-term response of large plants, and short-term response of small aquatic organisms. The number of stream section replications that should be basic, built-in features of a research facility must be balanced with other demands for flexibility.

**Natural EDE Stream Experimental Areas:** The ultimate test of the effective regulatory control of treated wastewater discharges is measurable environmental benefit in the stream ecosystem receiving the effluent. In the long run, this must be addressed by empirical observation and measurement programs in order to demonstrate that the environment is being protected, and that public funds are not being needlessly expended, irrespective of compliance with permit conditions based on derived water quality criteria. A program of stream observations at several sites downstream of municipal secondary discharges on arid southwest EDE streams should be implemented as part of the overall effort. The primary focus of the observations would be to assess the status of communities and ecosystems in relation to the spatial and temporal distribution of effluent constituents. These data will be used to aid in the design of lab and model ecosystem experiments to partition causal relationships among the many contaminants in the effluent. Field data of this type would also be useful for design of many features of an experimental stream facility. Over time, the

accumulation of field biomonitoring data would be the most valuable resource in demonstrating effective environmental assessment and pollution control.

Field data to be collected will depend on the specific objectives to be addressed in a given timeframe. Some measurement protocols would likely be carried through a wide variety of programs. While considerable information is available on the effects of potential toxicants on species occurring in more mesic ecosystems and habitats, very little information is available for species found in the arid southwestern United States. Some data has been collected on the occurrence of potential toxicants in relevant southwestern species Eisler (1985a, 1985b, 1986, 1988). This information would be utilized in the development of the experimental designs for acute and chronic effect exposures in the laboratory and for selecting biomonitoring programs at field sites.

Effects of environmental contaminants on populations, communities, and ecosystems are difficult to quantify. Potential impacts include changes in population density of both the primary and secondary producer species in the stream ecosystem, changes in predator-prey ratios, and alterations in food web complexity. These changes could have considerable impact on the community structure and stability. Variations in system photosynthesis and respiration may be diagnostic of the successional status of effluent-dependent streams and assist in predicting the ultimate fate of these ecosystems (Odum, 1969; Fisher, et al., 1982).

Changes in community structure might impact the ecosystem's ability to recover from large environmental fluctuations such as floods or extended periods of drought (Fisher et al., 1982). Recovery from naturally occurring perturbations such as flash floods could be simulated in experimental stream facilities, and measurements at field sites would be useful for design of simulation studies. Also, the field and experimental stream data would be used to demonstrate that some adverse impacts may be strongly related to stormwater contaminants, such as mercury, rather than treated wastewater discharges.

The available literature on actual stream quality assessment is expanding rapidly, providing many examples of useful results and methods that might be employed on EDE streams (Isom, 1992). Isom (1992) reports an interesting concept of streamside macrocosms (Hall et al., 1991) as an adjunct to in situ biomonitoring.

## VII. CASE STUDIES

The EPA streams at Monticello, Minnesota provide a good case study for planning discussions related to the design of a large-scale system to simulate EDE streams. In the early years of its operation, the eight channels provided for replication of one control and three levels of a chemical stressor, such as copper. Four of the channels contain a wetland segment at the terminal end of the stream. Subsequently, the channels were modified so that there was a series of eight riffles and nine ponds in each channel. This would allow for hierarchical experimental designs that could improve the confidence in assessing the impact of a chemical on stream ecosystem components. Still, the one improvement the current scientific staff at Monticello would like to have (R. Hermanutz, pers. comm. May 3, 1992) is twice the number of channels! A detailed review of all the studies conducted at Monticello to determine the similarity to the types of questions of concern in the arid west and the implications for design of a facility to address them would be useful. Although the system at the Savannah River facility has a quite different purpose, the operational and scientific experience there should also be evaluated with respect to design recommendations for a facility for EDE stream simulation.

As an adjunct to the design process, it would be useful to prepare two scenarios on the potential use of a system of simulated streams to address the questions of the proper value of the nitrogen criterion and a metal, for example, cadmium. Nitrogen is suggested because it is an essential element for biological productivity and thus has a recognized beneficial role in aquatic and terrestrial systems, and in some forms and concentrations is capable of adversely impacting some aquatic species and humans. Additional rationale for a nitrogen study is provided in Appendix B.

Cadmium has no known beneficial role and can serve as a model for determining adverse impacts of at least some of the other metals of concern. The environmental behavior and analytical chemistry of cadmium is fairly well established, and would be easier to handle than mercury and lead, for example. The scenarios would also describe how available lab and field data would be used to generate a balanced research plan using bench-top dose-response studies, microcosms, simulated streams, and empirical studies at natural stream sites.

## VIII. RESEARCH SITE

### A. PCWWM SUPPORT OF RESEARCH ON WATER QUALITY

PCWWM has supported and continues to support research on water quality to improve understanding of basic scientific relationships in treating wastewaters and protecting the environment receiving the treated effluent. See EBASCO, 1990 and Karpisak et al., 1992, for example. PCWWM has modern, analytical chemistry laboratory capability that can be made available to support experimental research.

PCWWM has proposed to support and conduct an integrated program of research and development, including experimental stream channels, to produce criteria data, contributing significant resources to the effort, such as approximately 50 acres of land at the Roger Road Plant in Tucson (Brinsko, 1992). PCWWM has prepared a five-year plan which includes the construction of the research center and a program of research to produce papers for publication in peer reviewed scientific journals, and for use by regulatory agencies to aid in formulating appropriate criteria and standards. The PCWWM data and facilities would be available to all scientific participants and collaboration with established laboratories of other institutions would be sought. A research advisory committee made up of scientists, regulatory agency representatives, and dischargers would be set up to assist in preparing and evaluating research.

### B. TUCSON AS AN APPROPRIATE LOCATION FOR A REGIONAL FACILITY

In terms of climate, the Tucson area represents the climate of a major portion of the region likely to benefit from the results of this research effort. This is important for simulation of natural environments throughout the arid west, even for summer conditions in the most northern sections. A favorable climate also allows year-round study in outdoor sites which may not be possible in more northern climates. The proximity and interest of the University of Arizona, a "Research-1" university, enhances the opportunity for day-to-day collaboration with PCWWM staff and visiting scientists. In addition, Tucson is a readily-accessible city with all the amenities of a major metropolitan area.

## IX. CONCLUSION

Regulatory agencies have now recognized that a balance can be struck between the national goals of the Clean Water Act and the realities of regional environmental differences. This is being done on a site-by-site basis at many locations and trial methods are underway for coastal discharges. Similar efforts are being pursued for the Great Lakes as a regional effort and now there is support for an EDE stream initiative. Hundreds of research projects and millions of federal dollars have been allocated to develop national standards based on fish and related species living in perennial streams, lakes, and coastal waters, but very little data has been developed on the flora and fauna thriving in arid or semi arid conditions. Pima County and other governmental units in the southwest are putting resources into the development of appropriate standards for this region, and it is in the broader interest of the nation for federal support to be added to the effort.

Research results will provide better water quality criteria for the protection of valuable riparian habitats of EDE streams, more specific effluent criteria for efficient and effective waste treatment and discharge practices, and will demonstrate through biomonitoring the benefits of water reclamation. Impacts associated with discharge of treated wastewater and its constituents are known to range from beneficial to inconsequential to adverse, consequently, a series of experiments might need to be conducted to establish both the quality and the magnitude of impacts under a variety of natural conditions. A multi-year program is required to investigate the wide range of arid ecosystem components that may be impacted by the variety of effluent constituents in treated municipal discharges.

A modern research facility capable of simulating natural conditions in the arid west needs to be developed in a site central to the region to provide a major portion of the necessary data and methods. Useful results for major problems in the area could be available within the first year or two of study. The PCWWM's Roger Road Wastewater treatment facility in Tucson, Arizona should be seriously considered as a site for the research facility.

## X. RECOMMENDATIONS

Several activities are recommended to be initiated to begin data collection, methods development, and additional planning details. These are activities that will add to the database for developing appropriate criteria and standards for PCWWM and other similar dischargers in the arid west, and will contribute to the timely development of a research facility plan. These will not be wasted efforts if the central research facility is brought on-line in the near future, but will be useful if there are unfortunate delays in realization of the facility. Since these activities can be of substantial benefit to a large class of discharges, they should merit attention from the EPA and other research grant organizations for joint funding.

- Begin development of a database on biological resources currently extant on the Santa Cruz River downstream from the Roger Road outfall because of its potential for use as a representative research site for the region. This work could be undertaken for \$120,000 per year and completed within three years.
- Additional laboratory space would be needed to conduct dose-response studies in typical bioassay arrangements and in microcosms of moderate size. About 6,000 square feet of modern experimental laboratory and computer data links would provide approximately 12 lab units of 15 feet by 20 feet. A proper cost estimate has not been made for a facility of this size and type, however, using \$200 per square foot as a unit cost, this laboratory would cost about \$1,200,000. Operational costs would be on the order of \$200,000 per year. These facilities would be needed in addition to outdoor mesocosms and experimental streams.
- Determine ammonia concentration effects on species important in EDE stream ecology in relation to nitrogen fate and municipal effluent discharges. These data would be useful to communities facing inappropriate nitrogen removal requirements, and would add substance to verification of existing and proposed standards that recognize the ecological value of nitrogen contributions to stream ecology. Nitrogen removal problems are possibly the most uniform across the region and research results are more likely to be universally applicable than any other study that could be conducted in the region, if not the nation. The study could cost \$180,000 per year for three to four years.
- Develop a model "eco-benefit analysis" for evaluation of alternative criteria for EDE streams including water reuse options. This activity would be responsive to the new, but untested, method proposed by the EPA Region 9. This could be a regionally applicable result. It might be conducted for \$120,000 and completed in a year.
- Develop an approach to evaluate the impact of major stormwater events on EDE stream quality and appropriate criteria. The EPA and major municipalities are currently struggling with development of stormwater criteria and it would be important to have an approach that considers the characteristics of the arid west before final the EPA regulations are promulgated. Depending on how specific this

approach needs to be and whether it would be entirely conceptual or partially quantitative, the cost could range from \$100,000 per year for two years to \$200,000 per year for four years.

- Review and evaluate mesocosm and simulated stream approaches for the types of data needed for EDE stream criteria. While this information would be especially useful for design of the central research facility, it would be directly useful for studies PCWWM would be interested in pursuing to develop appropriate criteria for their discharge permits. This study could be completed in slightly more than a year for about \$180,000. A significant portion of the cost would be for travel of expert consultants.

- Assemble a scientific advisory council for the continuing planning effort. This activity also is primarily related to design of the central facility, however, at least on some scale it would bring together the current scientific guidance on developing data to support appropriate criteria applicable to PCWWM's own situation. A continuing program over several years could be conducted for \$75,000 the first year by combining the work with the above review study and \$75,000 per year for the out-years. Regulatory agencies need to be an active part of the planning process on two different levels: first, as a partner in recognizing the validity of the approach to generate criteria that in concept will result in regulatory controls; and second, to participate in the design of research studies and the evaluation of results that on their merit may be accepted.

- In conducting the more detailed planning for research, it will be important to focus on the design of experiments (and equally importantly, the design of facilities) to examine the inter-relationships of sensitivity of regionally appropriate species and the exposure regime appropriate for the arid west. In this report, both have been mentioned as different than used for the development of national criteria, and both factors need to be taken into account in acquiring new data. If the exposure regime emerges as a significantly greater factor, there may be less need to research a new set of species to find acceptable experimental subjects. If some of the currently-accepted species can be used along with the appropriate exposure regime, considerable time and effort will be saved. However, with the current state of knowledge, it is not possible to say which of these two general factors is the more important in developing appropriate criteria.

- Although planning should focus primarily on the development of criteria, planners and operators of the program should emphasize the value to the nation in developing data and knowledge that will also be applicable to the protection of groundwater quality. Research studies designed to follow the fate of treated wastewater constitute a step beyond the determination of species response, but this step could well attract funding from a broader base and thus optimize the payoff to the public.

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**APPENDIX A**

**ADDITIONAL EXAMPLES OF  
EDE STREAMS**

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ADDITIONAL EXAMPLES OF EDE STREAMS

**Fountain Creek, Colorado**

Fountain Creek is located between Pueblo and Colorado Springs, and receives 32 MGD of treated municipal wastewater from Colorado Springs. During dry months, the flow is composed entirely of effluent. Major storm events result in a vastly elevated water velocity in the stream channels. Such events result in sand scouring of streambed shales which, in turn, limit aquatic species diversity and probably inhibit establishment of aquatic flora. Fish species that persist in Fountain Creek include fathead minnows and dace which survive flood events in tributaries and backwaters. Biomass and diversity indices above and below the point of effluent discharge are not significantly different, despite elevated levels of ammonia downstream. It is likely that the physical characteristics of the stream, rather than the presence of effluent, limit the ability of aquatic life to flourish in Fountain Creek.

**Santa Fe River, New Mexico**

The Santa Fe River is located in the upper Rio Grande basin and drains the southernmost western slope of the Sangre de Cristo Mountains. Historically, the mouth on the Santa Fe River on the Rio Grande was located downstream from the present site of the Cochiti Reservoir. Construction of the dam blocked the original channel and created a marsh. Presently, three water supply dams upstream from Santa Fe impound runoff from the river's upper basin. Flow between the lowermost reservoir and the Santa Fe wastewater treatment facility occurs only during spring runoff and storm events. Thus the channel is usually dry in this reach and the Santa Fe Wastewater Treatment Facility (WWTF) is the major source of water in this reach of the river.

Intensive water quality surveys began in 1984 during the initial operation of Santa Fe's reconstructed WWTF. During 1984, several violations of standards were documented and attributed to deficiencies in design, equipment, and operation of the WWTF (Potter and Jacobi, 1984). In 1985, all standards were attained, except nitrogen, again due to equipment failure (Potter, 1985). Effluent flow in 1986 averaged 3.0 MGD during the survey period (Potter and Tague, 1986). No water quality standard violations were caused by effluent quality.

**Rio San Jose, New Mexico**

The Rio San Jose originates near the Continental Divide flowing southeasterly past the Bluewater and Grants-Milan areas, through Acoma and Laguna land grants, emptying into the Rio Puerco. The Rio San Jose is generally dry upstream of the Grants wastewater treatment facility, except following rainstorm events. The main tributary in this upper reach is Bluewater Creek, which is controlled by Bluewater Dam, built in 1927. Water released from the dam is entirely used for irrigation prior to the confluence of Bluewater Creek with the Rio San Jose (Tague, 1984). The Grants WWTF discharges effluent to the river averaging 1.2 MGD. Eight miles downstream from Grants WWTF, the stream traverses an

area of groundwater discharge known as Horace Springs. Flow increases to 3.6 MGD at this point.

#### Las Vegas Wash, Nevada

Las Vegas Wash, an ephemeral stream, receives wastewater from the city of Las Vegas and Clark County which then flows into Las Vegas Bay on Lake Mead. Prior to floods in 1987, there was a wetland area through which effluent moved, effectively reducing ammonia levels in the effluent. As a result of flooding, the wetlands have been eliminated and channelization in the wash initiated (Alderson, pers. comm., July 22, 1992).

The Clark County Sanitation District operates an advanced wastewater treatment (AWT) plant to serve the Las Vegas Valley. The plant has the capability of providing additional treatment for sewage treated at the Clark County and City of Las Vegas secondary treatment plants, in addition to providing service to other areas in the Valley.

#### Meadow Valley Wash, Nevada

The Meadow Valley Wash is a small, ephemeral stream which flows to Muddy Creek that empties into the Colorado River. The City of Caliente operates a secondary (activated sludge), package treatment plant which discharges treated domestic wastewater into Meadow Valley Wash. At its upper end, the Meadow Valley Wash does not connect with the lower end due to low flows most of the year. Currently, the Wash has in-stream standards which must be met at its confluence with Muddy Creek approximately 100 miles downstream from the treatment plant. When the standards come up for review, it will be recommended that a portion of the Meadow Valley Wash from the confluence to a designated point will have to meet specific standards whereas the upper reaches of the Wash will have to meet a specific class (A, B, C, or D) allowed under the Nevada Pollution Regulations of the Nevada Administrative Code.

#### Santa Ana River, California

The Santa Ana River, located in southern California, is an example of a river that is ephemeral in portions and perennial in others. Historically ephemeral, the upper segments have perennial flow as a result of effluent from three municipal dischargers. There are no indigenous fish in the system. Mosquitofish are planted as a means of mosquito control. The lack of significant aquatic life in the stream is likely a function of natural habitat characteristics similar to those that characterize those portions of the Santa Cruz River that are effluent-dependent. These characteristics include a sandy streambed, low flow (virtually no flow upstream from discharge points), high temperatures, and periodic flash floods. A lack of shading from riparian vegetation is also characteristic of the Santa Ana River. Man-induced changes to the habitat include vegetation removal for floodway maintenance, non-point source impacts, barriers to fish migration, and stream channelization.

#### Salt River, Arizona

The Salt River, the major tributary of the Gila River which ultimately carries runoff from most of the southern half of Arizona to the Colorado River, was a perennial stream until early in the 20th Century. Completion of Theodore Roosevelt Dam on the Salt River in 1910 began its demise as a perennial stream in its lower reaches. The completion of other dams on the Salt River, Mormon Flat Dam in 1925, Horse Mesa Dam in 1924, and Stewart Mountain Dam in 1930, coupled with construction of Bartlett (1939) and Horseshoe (1946) dams on the Verde River, broke the annual cycle of spring flooding and perennial flow in the Salt River (Brown, 1985). Currently, the Salt River between Granite Reef Dam (an agricultural diversion dam downstream from Stewart Mountain Dam) and Phoenix is essentially an ephemeral stream, flowing only during periods of controlled water release from upstream dams.

The City of Phoenix discharges treated municipal and industrial effluent into the otherwise dry Salt River bed at its 91st Avenue treatment plant. Downstream from the point of discharge are riparian and wetland habitats that are largely effluent-dependent. At one time, prior to severe flooding in the 1970s and early 1980s, the riparian and wetland habitats associated with the effluent discharge were of such high quality and value that the area was a popular waterfowl hunting area (Brown, 1985) and was nominated as a potential Natural Area by the Arizona Academy of Science (Smith and Bender, 1973). At present, riparian and wetland habitats in the area are recovering in response to effluent discharge, even though a significant fraction of the total discharge is being piped to the Palo Verde Nuclear Generating Station west of Phoenix for use at that facility.

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**APPENDIX B**

**RATIONALE FOR A NITROGEN STUDY**

## APPENDIX B RATIONALE FOR A NITROGEN STUDY

Nitrogen is an important candidate for study because it is a common, fairly uniform, constituent of municipal wastewaters in communities everywhere, including throughout the arid west. Research results would have a high degree of applicability to many if not all municipal effluent discharges in the region. Overly strict effluent limits would be costly to achieve and there is reason to believe that in many receiving waters the concentration and form of nitrogen species is not a serious problem, if even a minor problem. Thus it would be a waste of resources to remove a constituent of effluent if it is not causing a problem. Furthermore, there is ample evidence to show that riparian habitats in the arid southwest are beneficially impacted if not dependant on the nitrogen contributed by municipal effluents. Consequently, if nitrogen is removed to meet an inappropriate regulatory standard, not only would it be a waste of resources, but it would also adversely impact a socially-acceptable, beneficial use of the watercourse.

Nitrogen concentrations in properly treated municipal effluents can be expected to range from 20 to 40mg/l, due primarily to the domestic wastewaters contributed to a municipal sewerage system. Concentrations could be higher or lower depending on the influence of stormwater drainage and industrial wastes contributed to the system. Nitrogen in treated municipal effluents is primarily in the form of approximately equal portions of ammonia and organic compounds such as amines derived from the breakdown of proteins. Nitrates are generally in low concentration unless the plant is underloaded and the retention time is sufficiently long in aerobic tanks to allow microbial oxidation of the ammonia to nitrate. Total nitrogen is largely conserved in the flow of sewage through a modern, well operated, sewage treatment plant, although some may be volatilized in septic environments in the plant. The ammonia fraction tends to increase and the organic fraction decreases as the waste stream is carried through the treatment processes.

If nitrogen removal becomes necessary to meet effluent limits, removal can be enhanced by additional treatment units combining the creation of microbial mass, the conversion of ammonia to nitrates, and the reduction of nitrates to nitrogen gas. Energy is needed for additional pumping requirements, space is needed for plant structures and, in some systems, additional organic feed stock such as methyl alcohol must be added to generate microbial mass. Overall, the cost would be about \$130,000,000 for a wastewater treatment plant such as in Pima County (F.P. LaSala, pers. comm., July 1992). Some states may have already modified the EPA's national nitrogen standards, but there still is more to be done to establish a strong scientific support base in case environmental concerns are raised and to help other states consider the ecological and economic benefits of a modified standard.

Nitrogen can be a problem in some watercourses. Ammonia, primarily in the un-ionized form, is toxic to many aquatic organisms over a wide range of species-specific values, e.g., 0.0017 to 4.6mg/l (EPA, 1986a). The EPA national criteria for un-ionized ammonia (1986a) for warm water aquatic organisms are approximately in the range of 0.13 - 0.37mg/l as a one-hour average exceeded no more than once in three years, and 0.02 - 0.05mg/l as a four-hour average exceeded no more than once in three years. The Arizona DEQ (1992) has designated 29 effluent-dependent navigable streams for which site specific water quality

standards may be requested. Absent site-specific determinations, the ammonia concentration allowed is dependent on the uses designated for the stream. For some uses, there is no numerical standard (effluent-dependent and ephemeral streams), while for others, the allowable value is similar to the EPA national criterion for a one-hour average once in three years. In terms of total ammonia, as distinguished from un-ionized ammonia, these limits are on the order of 12 to 2mg/l, respectively, depending on the pH and temperature of the water, and in terms of total nitrogen, these ammonia values would represent approximately 10 and 1.6mg/l.

Arizona limits total nitrogen to less than maximum values of 1 to 3mg/l for certain navigable waters, but these standards may be waived on a discharge-specific basis for a discharge to an ephemeral water tributary to the regulated navigable water. Organic nitrogen is not usually regulated except as it represents a component of total nitrogen, although there are restrictive criteria for specific compounds such as nitrosamines and nitrobenzenes that are not ordinarily included in the measurement of organic nitrogen. Organic nitrogen discharged to streams is assimilated by micro and macro organisms and is converted into biomass or ammonia so that in some cases the stream concentration of ammonia could tend to be increased over the amount actually discharged in the effluent. However, the rate of ammonia oxidation to nitrites and nitrates is quite rapid and the net effect is ammonia concentrations decrease with time. Aside from nitrification by microorganisms, some plants also remove dissolved ammonia through metabolic uptake.

Nitrites and nitrates are limited by Arizona (1992) only for streams designated for use as domestic water sources. Nitrate is limited to 1mg/l and nitrates alone or in combination with nitrite is limited to 10mg/l, based on health considerations (EPA, 1986a). The EPA (1986a) does not recommend restrictive criteria for nitrite or nitrate (presumably for other designated uses) recognizing that levels known to cause toxic effects would rarely occur in nature. Their analysis suggests that nitrite below 5mg/l and nitrate below 90mg/l would have no adverse effect on warmwater fish. The major concern with nitrates is the potential for reduction to nitrites and ingestion by infants under three months of age. Since treated wastewater effluent may contribute to groundwater supplies in some areas near EDE streams there may be reasons to investigate the fate of nitrates in relation to active transport into the groundwater. The fact that stream concentrations of nitrates in EDE streams consisting primarily of treated effluent may rarely exceed 10mg/l and that plants readily take up nitrate suggests that nitrate plus nitrite levels in percolating groundwater would not exceed 10mg/l. See also observations by Herbert (1976), Ince et al. (1980), Lance (1975), and Osborn (1987).

Experimental streams have been used by the EPA to investigate the fate and toxicity of ammonia on test organisms in the Minnesota experimental streams e.g., Zischke and Arthur (1987), Arthur et al. (1987), and Hermanutz et al. (1987). Experimental streams in the arid west, or functionally similar mesocosms, could provide data for rational development of criteria for un-ionized ammonia, nitrite, nitrate, and total nitrogen for EDE streams in this biogeographic province. Laboratory and field measurements would be important adjuncts to the design of the studies and interpretation of the results.

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**APPENDIX C****BIOGRAPHICAL SKETCHES OF AUTHORS**

**DONALD J. BAUMGARTNER, PH.D., P.E.**

Dr. Baumgartner graduated from the University of Illinois (Urbana) in Sanitary Engineering, took an M. S. at MIT, and earned a Ph. D. at Oregon State University in Civil Engineering, with major emphasis on fluid mechanics and a minor in statistics. Additional coursework was taken at the University of Cincinnati and he served as an instructor in Sanitary Engineering at the University of Alaska (Fairbanks).

Professional employment in the U.S. Public Health Service resulted in assignments in Washington D.C.; Cincinnati, Ohio; Fairbanks, Alaska; and Corvallis, Oregon. He gained certification as a Registered Professional Engineer in Illinois in 1963. From 1967 through 1989, he was in charge of a marine pollution research laboratory of the U.S. Environmental Protection Agency, conducting research and providing technical assistance on the national problem of ocean disposal of wastes. Dr. Baumgartner was responsible for the development of mathematical models used for discharge permits, and for technical assistance to municipalities, industries, and state and local agencies working with the EPA to apply regulations thoughtfully. He traveled to Italy, Poland, Yugoslavia, Sweden, Japan, The Soviet Union, and The United Kingdom to participate in joint oceanographic research projects.

In January 1990, he accepted a position as Associate Director of the University of Arizona Environmental Research Laboratory and became its Acting Director in November 1992. He continues to provide consultation to the EPA through an adjunct appointment with Oregon State University and is on a doctoral candidate's committee there, and through a consulting agreement with Tetra Tech, Inc. He also has an adjunct appointment with Civil Engineering at the University of Arizona. A current research interest is development of appropriate water quality criteria for ephemeral and effluent-dependent streams in the arid west.

**E. LINWOOD SMITH, PH.D.**

Dr. Smith received his undergraduate training at Central Washington State University where he earned a B.A. in zoology in 1965. He completed his M.S. and Ph.D., both in zoology, at the University of Arizona in 1967 and 1971, respectively. He has held faculty positions at both the University of Arizona and Arizona State University, and is currently the Director of the Biological Resources Study Group for the Intermountain Region of Dames & Moore. Prior to joining Dames & Moore in 1987, he owned and operated E. Linwood Smith & Associates, a biological consulting firm, from 1975 to 1987.

Dr. Smith has extensive experience, primarily with terrestrial systems, throughout the western and southwestern United States. He has also completed studies in the southeastern United States, in Nome, Alaska, on the island of Guam, and in the Republic of Mexico. Past experience has included analysis of whole terrestrial and wetland ecosystems, and long-term studies of various project impacts on individual species (e.g., desert bighorn sheep, bald eagle, and Alaska king crab). His current research interests are focused on wetlands, and threatened and endangered species of wildlife and plants. Dr. Smith recently provided expert testimony to the "God Squad" regarding the northern spotted owl, completed studies and analysis on Mexican spotted owl habitat in Arizona and New Mexico, and directed a literature-based analysis of an alternative hypothesis addressing recent, suspected declines in northern goshawk populations on the Kaibab Plateau of northwestern Arizona.

Dr. Smith is the author of one book and has more than 25 peer-reviewed publications in the scientific literature.

**ROBERT JOSEPH FRYE, PH.D.**

Dr. Frye received his undergraduate education at Phoenix College, University of New Mexico, and the University of Arizona where he earned a B.S. in Biology in 1971 and a Ph.D. in Ecology and Evolutionary Biology in 1983. Recent experience has included working at the University of California in San Diego as a programmer and a biometrician, at the University of Arizona as a Systems Ecologist and Biologist, and currently as a Senior Research Scientist with the Environmental Research Laboratory. He also currently holds an Adjunct faculty position with the Department of Ecology and Evolutionary Biology at the University of Arizona. Research interests include both applied ecology and carbon cycling in closed ecological systems, bald eagle nesting surveys in the Rio Bavispe/Rio Yaqui drainage of Sonora, Mexico, and the conservation biology of a rare cactus in Arizona.

**JAMES J. RILEY, PH.D.**

Dr. James J. Riley is a Senior Research Scientist at the Environmental Research Laboratory of the University of Arizona. He received a Bachelor of Science Degree in Mathematics in 1959; a Master of Science in Meteorology in 1963; and a Ph.D. in Hydrology in 1968 --- all from the University of Arizona. His specialties include international agricultural, physiological responses of plants to environmental parameters in tropical and aridland farming systems, and aquaculture. He has spent a large portion of his professional career outside of the United States, with tours of duty in Mexico, Abu Dhabi, Taiwan, Sudan, United Arab Emirates, Kuwait and Saudi Arabia. He served as a consultant to USAID on arid land water conservation and utilization and was a contributor to the National Research Council's publication on "More Water for Arid Lands". His current research focus is on the development of halophytes as agricultural crops and the hydrology of wetlands.

**KIMBERLY A. OTERO, M.E.M.**

Ms. Kimberly Otero earned a Bachelors Degree in Biology from Illinois Wesleyan University in 1978 and a Masters in Environmental Management from Duke University in North Carolina in 1979.

Ms. Otero joined the biology staff at Dames & Moore in April 1989. At Dames & Moore, Ms. Otero is a staff biologist and assists in the preparation of environmental assessments, environmental impact statements, and documents necessary for various permitting processes. Her expertise with the NEPA process and NEPA documentation was enhanced by her participation in a five-day course in 1991 at Duke University on the Implementation of NEPA for Federal Facilities. Current responsibilities include gathering inventory data and developing impact matrices for sensitive habitat types and threatened and endangered plant and animal species for the Affected Environment and Environmental Consequences sections of EISs and EAs for a variety of projects.

Prior to joining Dames & Moore, Ms. Otero worked with the Tennessee Valley Authority developing trophic status surveys for TVA reservoirs. She also worked in Chicago for two years as a consultant to EPA where she prepared 201 studies for wastewater treatment facilities.

WATER QUALITY CRITERIA  
FOR EFFLUENT-DEPENDENT  
EPHEMERAL STREAMS AND  
RIPARIAN HABITATS  
IN THE ARID WEST



REGIONAL  
WATER  
QUALITY  
RESEARCH  
PROJECT

PROPOSED BY:  
PIMA COUNTY  
WASTEWATER MANAGEMENT  
TUCSON, ARIZONA

George A. Brinsko, Director

MARCH 1993

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## EXECUTIVE SUMMARY

The 1972 Federal Clean Water Act (the Act) requires federal, state and local authorities to protect the water quality of the nation's navigable waters. Pursuant to the Act, the U.S. Environmental Protection Agency (EPA) has established national water quality criteria designed to protect aquatic biota found in wet ecosystems. State governments utilize such criteria as the basis for establishing water quality standards for local water bodies. These policies have created great difficulties for governmental and non-governmental agencies in arid and semiarid ecosystems. Those agencies often discharge effluent and stormwater into dry washes which have been classified as navigable waters of the United States.

State regulators and local dischargers throughout the arid west have consistently supported efforts to develop specific water quality criteria documents for arid ecosystems. In the past, the EPA has been reluctant to commit the resources needed to conduct such regional research. The agency adopted a policy of leaving it to individual states and localities to conduct site specific studies or other measures to justify utilization of other than national criteria to establish local water quality standards.

This attitude on the part of EPA has begun to change. The agency is beginning to support policies which encourage the development of appropriate criteria documents for arid areas just as they have for "wet ecosystems", e.g., ecosystems with lakes, rivers, etc.

To satisfy this critical need, Pima County Wastewater Management (PCWWM) proposes to establish a Regional Water Quality Research Project (WQRP) in Pima County, Arizona, to conduct laboratory, experimental stream, and field research on the impact of effluent and stormwater discharges on the flora and fauna of arid ecosystems. Such research would develop the basic scientific data for water quality criteria needed to establish water quality standards for arid areas.

The basic and applied research conducted at the regional WQRP would benefit federal, Indian, state and local interests in the arid and semiarid portions of 17 western states<sup>1</sup>. The WQRP would also have value and applicability to the water quality issues affecting Mexico's northern and border states, including *Baja California Norte y Sur, Sonora, Chihuahua, Coahuila, Nuevo Leon and Tamaulipas*. Western Canadian provinces could also benefit from the research results.

PCWWM is prepared to operate the WQRP (with the cooperation of the EPA and other agencies) at one of its wastewater treatment facilities. PCWWM would encourage both governmental and private organizations from throughout the arid west to participate actively in conducting scientific research at the WQRP to develop appropriate technical data to satisfy their specific needs.

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<sup>1</sup>California, Arizona, New Mexico, Texas, Oklahoma, Nevada, Utah, Colorado, Kansas, Oregon, Washington, Montana, Idaho, Wyoming, North Dakota, South Dakota, and Nebraska.

The results of such research would be provided to the states and the EPA as technical data to serve as the basis for establishing appropriate water quality criteria for effluent and stormwater discharges to ephemeral streams and riparian habitats in arid regions.

During 1992, Pima County obtained support from local and regional water and wastewater agencies, state regulators, and environmental groups throughout the arid west to establish the regional WQRP in Pima County. The County has also obtained the commitment of key Members of the U.S. Congress to consider the WQRP in 1993. Pima County officials will pursue federal funding for planning and design of the WQRP and initial laboratory construction in 1993. Monies to complete the construction of any other facilities needed and to implement the total WQRP concept will be sought thereafter.

ESTABLISHMENT OF A REGIONAL WATER QUALITY RESEARCH PROJECT  
TO DEVELOP WATER QUALITY CRITERIA FOR EFFLUENT-DEPENDENT  
EPHEMERAL STREAMS AND RIPARIAN HABITATS  
IN THE ARID WEST

I. INTRODUCTION

PURPOSE

This paper proposes the establishment of a Regional Water Quality Research Project (WQRP) in Pima County, Arizona to conduct basic and applied research on the effects of effluent and stormwater discharges to ephemeral streams and riparian habitats in arid and semiarid ecosystems. The data from such research could be utilized by the U.S. Environmental Protection Agency (EPA) and regulatory agencies throughout the arid west to develop appropriate water quality criteria, sediment standards, and biological indicators for arid and semiarid regions throughout the western United States.

BACKGROUND

The Clean Water Act: The U.S. Congress passed the Clean Water Act of 1972 (the Act) to "restore and maintain the chemical, physical and biological integrity of the nation's waters". The 1987 amendments to the Act required states to establish comprehensive narrative and numeric water quality standards to achieve "fishable-swimmable" waters "where attainable". These water quality standards are enforced by a federal and state National Pollution Discharge Elimination System (NPDES) permit process; violators are being penalized through administrative, civil, and criminal sanctions.

Federal and State Responsibilities: Federal and State authorities were given responsibilities under the Act. The EPA was given responsibility for developing "criteria documents", i.e., summaries of toxicological studies performed by researchers on the effects of toxic pollutants on a variety of aquatic species. The EPA utilizes the research results to develop national criteria documents which it publishes as guidance for state agencies to establish water quality standards for individual water bodies.

The states, in turn, were given responsibility for designating appropriate "beneficial uses" (e.g., drinking water, irrigation, aquatic and wildlife, etc.) for each navigable water within state boundaries and for adopting water quality standards.

This seemed, to federal authorities, like a logical approach to achieve the objectives of the Act. However, as time passed, this approach evolved into a policy of requiring states to utilize the same data to achieve "fishable-swimmable" standards everywhere, regardless of the ecosystem in which the navigable water was located.

## THE PROBLEM

The Arid and Semiarid West: The U.S. arid and semiarid west consists of the Great American Desert and the North American Prairies<sup>1</sup> (Figure 1). The Great American Desert encompasses approximately 378 thousand square miles in the western United States, plus, similar areas in Mexico's northern boundary states (i.e., *Baja California Norte y Sur, Sonora, Chihuahua, Coahuila, Nuevo Leon and Tamaulipas*). Some of Canada's western provinces also experience similar climatic conditions. Typically, the region experiences less than 15 inches of annual precipitation; and that precipitation normally occurs in 60 days or less. Summer daytime temperatures in the region often exceed 95°F.

The North American Prairies include a vast (approximately 958 thousand square miles) "semiarid" region. This region extends northward through western Utah, the northern half of Nevada, and into Oregon and Washington on the east side of the Cascade Range. Henceforth, the term "arid", as used in this paper, shall include these "semiarid" areas.

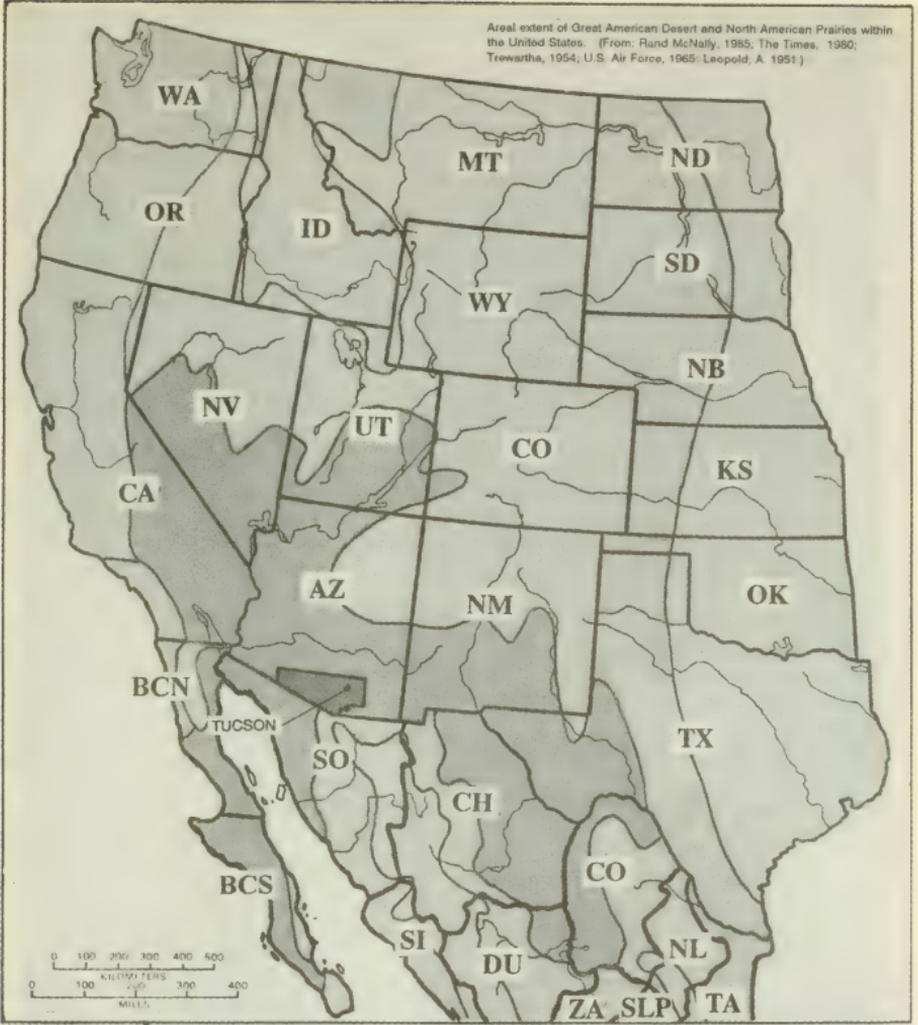
Ephemeral and Effluent-Dependent Streams: The arid west contains countless *arroyos* (or dry washes) which meet the federal definition of navigable waters of the United States. These dry washes are "waters" in name only. They are, primarily, "ephemeral streams" -- streams that have a channel that is at all times above the water table and that flow only in direct response to precipitation. Ephemeral streams that owe their flows primarily to wastewater treatment facility discharges are said to be "effluent-dependent".

The Santa Cruz River in Pima County, Arizona, is a typical effluent-dependent ephemeral stream. Under normal circumstances, the Santa Cruz is a dry wash, as depicted at the center of the photograph shown in Figure 2. This reach of the river would be classified as "ephemeral". At the bottom of the photograph, one can see the farthest extent of effluent flows from Pima County's wastewater treatment facilities. This reach of the Santa Cruz is categorized as effluent-dependent.

Gold Book Criteria: In the past, the EPA developed national criteria documents based on basic scientific research conducted in laboratory experiments representative of "wet area ecosystems", i.e., oceans, lakes and perennial streams. Such criteria were incorporated in a document which came to be commonly known as the "Gold Book". For various reasons, including cost, the EPA did not conduct the research needed to develop a counterpart to the Gold Book for arid ecosystems. Instead, the agency simply adopted a policy of requiring states to (i) utilize the Gold Book Criteria in establishing state water quality standards, or (ii) prove that they should be held to less restrictive water quality standards in certain locations as supported by site-specific and use-attainability studies.

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<sup>1</sup>D.J. Baumgartner, E.L. Smith et al., Rationale For a Program of Research to Develop Water Quality Criteria for Effluent-Dependent Ephemeral Streams and Riparian Habitats in the Arid West, University of Arizona; Tucson, Arizona; February 1993.



**LEGEND**

Great American Desert (Arid)	■	
Mexico Desert (Arid)	■	(Nonarid)
North American Prairies (Semi-arid)	■	
Mexico Scrub Land (Semi-arid)	■	Pima County

Figure 1

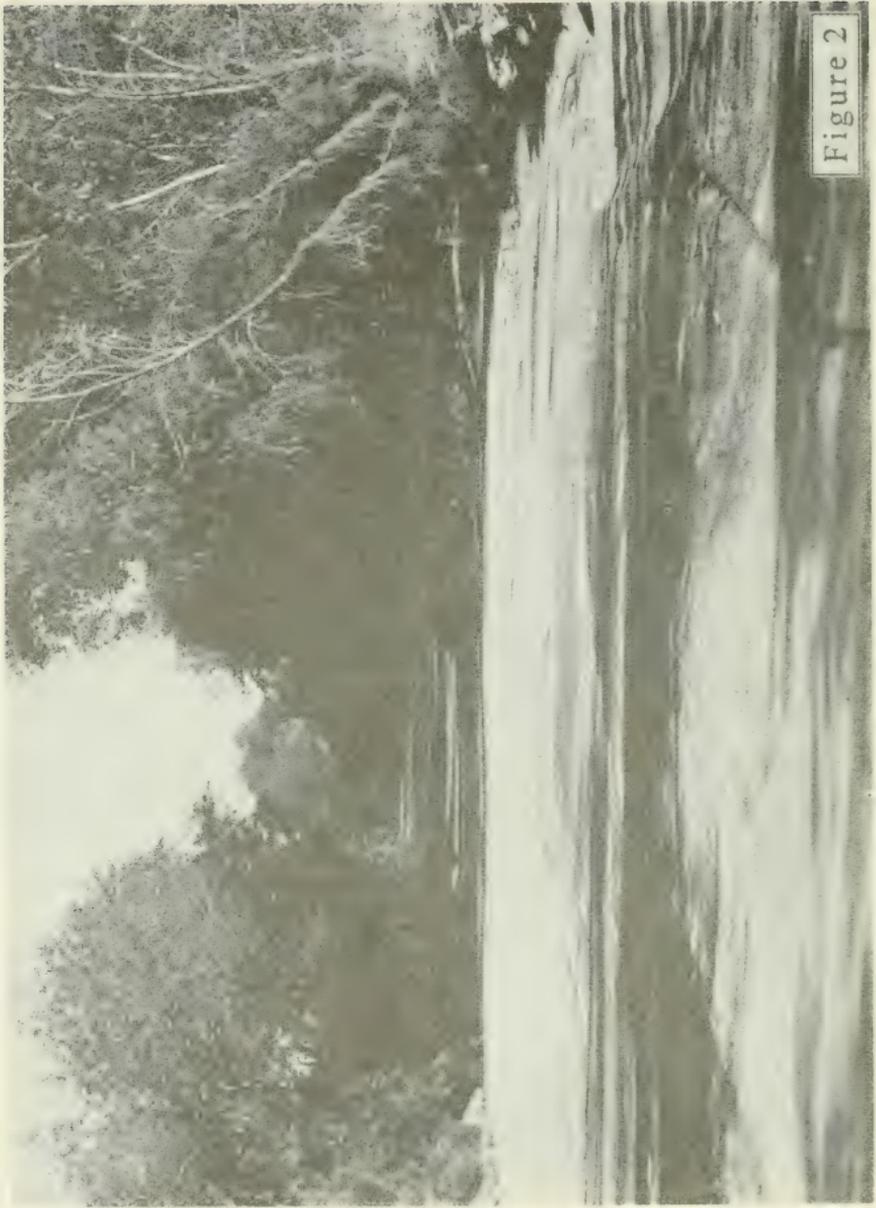


Figure 2

There is, however, clear evidence that the EPA is beginning to change its attitude regarding the need to develop specific criteria documents for arid areas. EPA Headquarters has indicated that it recognizes that the policy has caused undue problems. Recently, EPA Region IX has drafted new policies which call for special consideration of ephemeral streams and encourage the development of specific water quality criteria for arid lands. Governmental and non-governmental entities throughout the arid west have encouraged and applauded such changes in EPA's outlook.

Commitment to "Protect What is There": Local governmental authorities in arid ecosystems recognize their responsibility to comply with the Clean Water Act. The fact is that they, too, are regulators! And they have every desire to protect their surface and groundwater resources from contamination. The question is not whether they are prepared to protect such resources; but rather, is the level of protection appropriate? The answer, they believe, is that they should be required to fully protect what is there i.e., to prohibit discharges which will harm any biota existing (or biota that would reasonably be expected to exist) in their ecosystems. In the arid west, that would mean they want to protect resident plant and animal species.

## II. SPECIAL WATER QUANTITY AND QUALITY ISSUES IN ARID ECOSYSTEMS

### TOTAL WATER UTILIZATION

Policy makers in the arid west who deal with water quantity and quality issues are faced with totally different problems and objectives than their counterparts in wet ecosystems. In those areas, the concern is usually focused on having "too much water". In the west, people worry greatly about preserving water quality--both groundwater and surface water--because it is the lifeblood of their entire environment. However, they are also faced with the challenge of preserving, expanding and utilizing all available water resources in an efficient manner.

As urban areas expand in the west, elected officials are placed under tremendous pressure to make better and more efficient use of potable ground and surface water resources. Those resources are strictly limited, therefore, policy makers must -- out of necessity -- focus on full utilization of effluent and stormwater.

### EFFLUENT AND STORMWATER DISCHARGES TO EPHEMERAL STREAMS

Wastewater effluent and storm water discharges to ephemeral streams present municipalities and regulators with special problems. It is important to note that when a state establishes surface water quality standards, such standards normally apply to "receiving waters". In other words, in wet ecosystems, federal and state authorities take into consideration the dilution factor of a lake or river when establishing permit limitations. That makes abundant sense in such ecosystems where regulators are attempting to protect fish populations. An obvious difficulty arises, however, when one attempts to impose the same water quality standard on one who

discharges effluent or stormwater into a "dry wash" where there is no dilution factor. In such circumstances, the water quality standard, in effect, becomes the end of pipe permit limit.

Dry washes may have some plant and animal life which is dependent on periodic wetness of the wash; but, generally, they do not support aquatic life forms typically used for criteria development. Therefore, water quality standards that protect such life forms are unrealistic in the arid west. The cost to construct new, or retrofit existing, wastewater treatment facilities to meet such standards can be significant with no indication that such improvements will result in any net environmental benefit. In addition, the cost to treat stormwater discharges to dry washes to meet numeric water quality standards could amount to billions of dollars.

### III. REGIONAL INITIATIVE TO DEVELOP APPROPRIATE WATER QUALITY CRITERIA FOR THE ARID WEST

#### THE NEED FOR SCIENTIFIC TECHNICAL DATA

In order for EPA to develop appropriate criteria documents for the arid west, it must have scientific technical data that demonstrate the effects of toxicity on sensitive representative species of that ecosystem. Researchers must select regionally-representative organisms for testing; that selection is critical to the final validity of the criteria document. There are obvious selections of species for these studies that are not appropriate to climate, ecology or characteristics of these ephemeral and effluent-dependent streams. For example, many toxicological studies involve trout which exhibit extreme sensitivity to many stress factors. Utilizing the criteria developed from such studies makes little sense when applied to the dry, hot areas of the arid west.

Researchers have identified many species of organisms which exist in arid environments along ephemeral streams. However, an inventory of existing scientific literature reveals that little, if any, research has been conducted on the toxicity effects of effluent and stormwater discharges on such organisms.

#### EXAMPLES OF RESEARCH TO BE CONDUCTED

Researchers need to conduct laboratory and field tests on appropriate species to answer specific questions associated with the effects effluent/stormwater may be having on those species. For example:

- Determine the effects of effluent on terrestrial riparian and emergent species of plants.
- Does current effluent quality inhibit or enhance any species of terrestrial, riparian or emergent vegetation?

- What are the physiologically limiting loading rates for common constituents of effluent?
- What is the "mechanism of limitation"? For example, respiration, photosynthesis, water balance, seed germination, seedling growth, inhibition of flowering, etc.
- What are the implications with respect to water quality criteria and water quality standards in arid environments?
- Determine the natural succession of pioneering invertebrate populations.
  - Under what flow and effluent-constituent regimes do aquatic invertebrate populations become established?
  - Do pioneering species give way to populations of other species over time under a variety of flow and constituent regimes? What are the implications for discharge into normally dry river beds?
  - What effluent constituents inhibit or enhance the appearance of aquatic invertebrates?
  - What are the implications with respect to water quality criteria and standards in arid environments?
- Determine wildlife use of effluent-enhanced wetland habitats with emphasis on riparian and wetland-dependent species.
  - What is the extent, if any, of pollutants moving from the aqueous medium into the terrestrial vertebrate inhabitants of riparian areas?
  - What pollutants, if any, are moving through the food chain into local top carnivores (e.g., hawks and owls)?
  - What is the significance of the presence of fat soluble organochlorines in small mammals and birds?

- Determine the effects of filtering treated wastewater through a marsh/cienega habitat.
  - What effluent constituents are reduced?
  - What effluent constituents are not affected?
  - What are the implications for water quality criteria and standards in arid environments?

#### IV. REGIONAL WATER QUALITY RESEARCH PROJECT (WQRP)

##### PIMA COUNTY, ARIZONA AS THE SITE FOR THE WQRP

Pima County, Arizona is conveniently located in the arid west (Figure 1). Pima County and other western governmental authorities have been actively advocating the establishment of a WQRP in Pima County to conduct an integrated program of research on water quality. The research would improve the scientific community's understanding of what needs to be done to protect arid ecosystems which are receiving effluent and stormwater discharges. The technical data resulting from such research could be utilized by the EPA to develop appropriate water quality criteria for arid ecosystems.

Pima County Wastewater Management (PCWWM) has offered land adjacent to one of its wastewater treatment facilities and an analytical laboratory (See Figures 3 & 4), to serve as the site for the WQRP. The Roger Road facility is located on approximately 100 acres of land. It discharges approximately 25 million gallons per day of effluent into the Santa Cruz River, an ephemeral stream adjacent to the wastewater treatment facility. The Santa Cruz River also receives large quantities of stormwater during summer and winter storm periods. Pima County is ideally suited for location of the WQRP:

- The Pima County Board of Supervisors has responsibility for effluent and stormwater discharges into the Santa Cruz River;
- Pima County is located in an area that typifies the arid west. The County is located in the Sonoran Desert and has an average rainfall of less than 12 inches per year;
- PCWWM has a state-of-the art analytical laboratory for wastewater treatment facilities; additional biological laboratory facilities to accommodate specific research needs could be easily constructed at reasonable costs;



**Figure 3: Graphite Furnace Atomic Absorption Spectrophotometer**  
With EPA-approved methodology, this unit analyzes metal concentrations in water and wastewater.



**Figure 4: Inductively Coupled Plasma Mass Spectrometer**  
This unit analyzes a series of metals in water and wastewater.

- PCWWM would make available approximately 50 acres of land adjacent to the Roger Road treatment facility to construct an on-site research facility (Figure 5);
- Pima County has developed significant expertise in bringing together local and out-of-state scientists, water resource agencies, wastewater agencies, and industrial representatives to analyze water quality issues, and develop alternative national and regional policies;
- Pima County is ideally located and accessible to research scientists from throughout the arid west who will want to conduct research at the WQRP;
- Pima County is the home of the University of Arizona; the University is a "Research-1"<sup>2</sup> institution which specializes in water resources, health sciences, arid lands, and public policy;
- Pima County, with the cooperation of the University of Arizona, has participated in the development of human health standards for incidental human contact in effluent-dominated waters<sup>3</sup>;
- PCWWM has extensive experience in establishing programs for alternate uses of effluent. Figure 6 illustrates current and potential uses of effluent in the proposed study area;
- Pima County provides a good climate for researchers to conduct research out-of-doors year round.

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<sup>2</sup>"Research-1" institutions offer a full range of baccalaureate programs, are committed to graduate education through the doctorate degree, and give high priority to research. They receive annually at least \$33.5 million in federal support and award at least 50 Ph.D. degrees each year. The UofA has exceeded such criteria for several years. In 1992 alone, the UofA received \$191.9 million in external funding and awarded 346 Ph.D.s. Michael Cusonovich, Ph. D., Vice-President for Research, University of Arizona, Profile '92, 1992.

<sup>3</sup>Dean E. Carter, Ph.D. and Lial F. Tischler, Ph.D.; Proposed Human Health Ambient Water Quality Standards for Arizona; EBASCO Environmental; Bellevue, WA; July 25, 1990.



Figure 5  
**REGIONAL  
WATER QUALITY  
RESEARCH PROJECT**

# CURRENT WATER AND WASTEWATER CYCLE METROPOLITAN TUCSON

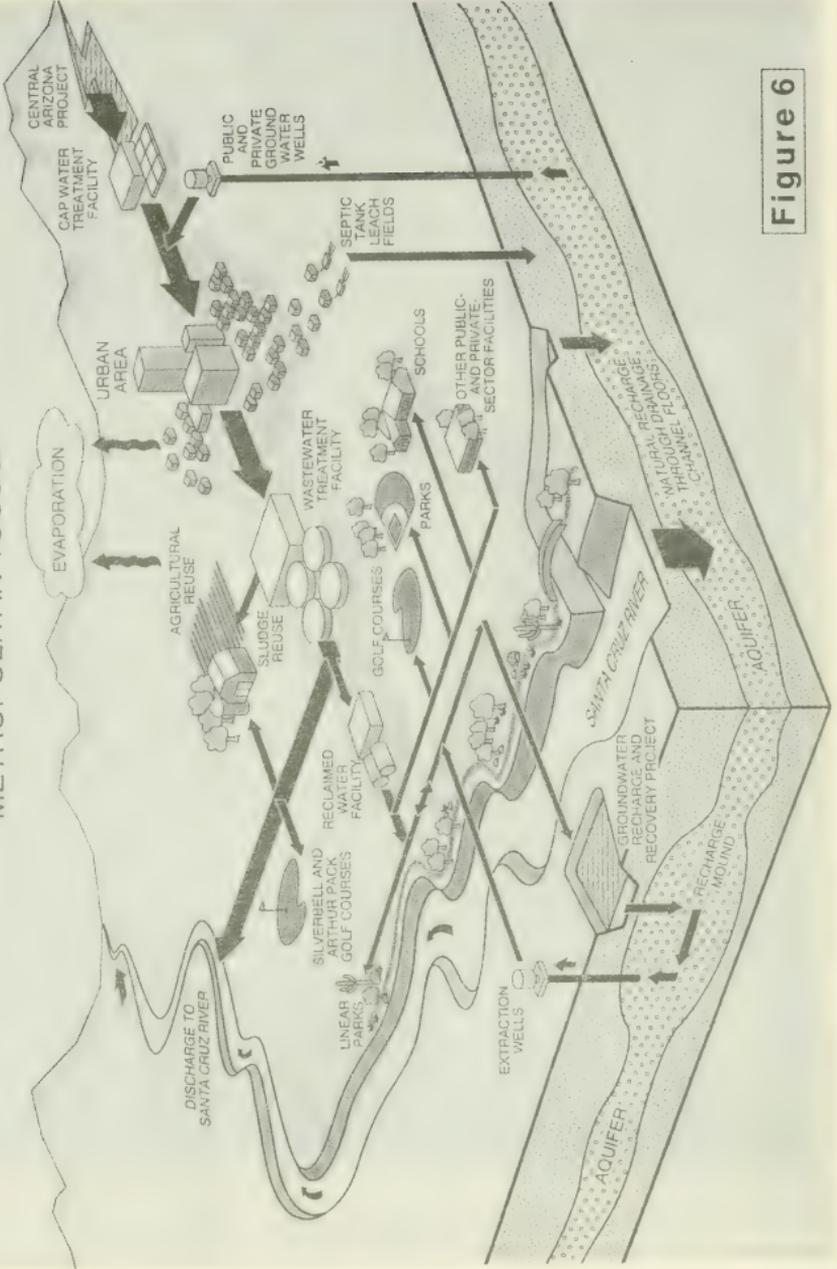


Figure 6

## ORIGINAL CONCEPT FOR THE WQRP

In April of 1992, PCWWM published a concept paper<sup>4</sup> which recommended the construction of a specifically-designed "experimental stream" WQRP in Pima County. The concept called for a joint venture between the federal government and Pima County. The joint venture called for Pima County to provide (i) staff support, (ii) laboratory time/access at one of its wastewater treatment facilities, and (iii) fifty (50) acres of property adjacent to its Roger Road wastewater treatment facility. The concept paper recommended that the federal government be asked to provide up to \$35 million to construct and operate the proposed WQRP over a four-year period.

The Pima County concept paper called for the construction of the "experimental stream" WQRP on the 50-acre site. Multiple channels were to be constructed on the 50 acres; the channels were to be lined and a variety of ephemeral and riparian ecosystems placed in and on the channels to simulate fauna and flora normally found in arid environments. The design was expected to replicate, to the greatest degree possible, naturally occurring conditions in arid ecosystems. The concept called for effluent to be conveyed from the Roger Road wastewater treatment facility, treated to varying levels, through the channels to test the tolerance of the various ecosystems simulated in the channels. The design of the WQRP also allowed for the retention of stormwater on-site and its discharge into the channels to permit its research and analysis.

PCWWM distributed the April 1992 paper to local, state, and federal officials to explain the need and purpose of the WQRP and to gain support for the concept. The County learned a great deal from those discussions and decided to modify its approach accordingly. First, it abandoned its original concept to immediately begin pursuing the construction of the specifically-designed WQRP described in the April 1992 paper. The comments received indicated that while the need for a project was certain, the County should not become enamored with any one specific design from the outset. The County agreed.

Second, a study was performed to review the April 1992 concept paper and to seek independent recommendations on the best way to proceed and to develop a research plan. The results and recommendations of that study<sup>5</sup> have been reviewed and accepted by the County.

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<sup>4</sup> George A. Brinsko, Director, Pima County Wastewater Management Department; Water Quality Criteria for Ephemeral Streams and Riparian Habitats in Semiarid and Arid Regions: Regional Water Quality Research Project; April 1992.

<sup>5</sup>D.J. Baumgartner, E.L. Smith, et al.; Rationale for a Program of Research to Develop Water Quality Criteria for Effluent-Dependent Ephemeral Streams and Riparian Habitats in the Arid West; University of Arizona; Tucson, Ariz; February 1993.

## REVISED PLANNING, DESIGN AND FUNDING CONCEPTS FOR THE WQRP

The study supports the need to develop a regional WQRP with multi-modal research capacity which could respond to a wide range of research questions. Initial research at the WQRP would focus on water quality issues in the west including water quality criteria for effluent and stormwater; effluent reuse and recharge; and regional water quality/quantity management. The project could also be expanded to permit researchers to gather scientific data to develop sediment and biological integrity standards.

The study recommends, however, that further analysis and planning be conducted to determine the exact design of the proposed facility to be constructed. For example, to what degree should the proposed facility include the capability to conduct laboratory dose-response experiments? What form of model ecosystems would best be constructed (e.g., microcosms and/or mesocosms) to achieve project objectives? Should a large experimental stream ecosystem model (similar to the system constructed at Monticello, Minnesota) be constructed to test "real-world" situations? To what extent should scientists conduct experiments on resident species on-site (in various stream ecosystems which receive effluent or stormwater throughout the arid west)?

PCWWM has accepted the study recommendations and fully supports further analysis and planning before deciding upon final project design. Given the study's recommendations, PCWWM will initially seek \$5 million in federal funding in FY 94 to pay for the cost of planning and design of the WQRP including construction of biological laboratory facilities at the Roger Road wastewater treatment facility. Monies to complete construction of any other facilities needed will be sought thereafter.

Pima County is prepared to contribute up to \$500,000 of matching funding in land, effluent, laboratory testing services and staff support to the project.

## WQRP OPERATIONAL CONTROL

PCWWM believes that development, construction, and operation of the WQRP must have the full support of the EPA. The EPA must have total confidence in the results of the research to be conducted at the facility, in order for it to accept such data as the basis for development of its criteria documents.

With that in mind, PCWWM proposes to organize an advisory council comprised of representatives from EPA, scientists, regulators, and WQRP users to draft and develop an appropriate WQRP mission statement and operational guidelines. The advisory council would also provide peer review, set research objectives, and monitor project progress. PCWWM is prepared to operate the WQRP with the cooperation of the EPA.

## V. CONCLUSION

For some time, state and local governments throughout the western United States have been urging the EPA to develop specific water quality criteria documents for the arid west, just as it has for "wet ecosystems". The creation of such documents will permit states in the arid west to develop reasonable water quality standards for effluent and stormwater discharges to ephemeral streams and riparian habitats throughout the west. Local municipalities should not have to expend tens of millions of dollars to retrofit existing, or construct new, wastewater treatment facilities to treat effluent and stormwater to meet water quality standards that do not result in any net environmental benefit. States should only be required to develop water quality standards designed to protect what is there i.e., the fauna and flora which actually exists in the environment.

There is widespread support from scientists, water and wastewater officials and regulators throughout the west for the need to develop criteria documents for arid ecosystems. This will require basic and applied research on resident species in an arid environment. Pima County proposes to establish a federally-funded WQRP in Arizona to conduct the research. The County would make available land, laboratory facilities, and professional staff support for the project. The County is seeking \$5 million in federal funding to begin planning and design of the WQRP, including construction of a biological facilities laboratory, in 1993; it will pursue funds to complete construction of the other necessary facilities thereafter.

ILEANA ROS-LEHTINEN

18TH DISTRICT, FLORIDA

COMMITTEES

FOREIGN AFFAIRS

GOVERNMENT OPERATIONS



**Congress of the United States**  
**House of Representatives**

STATEMENT OF THE HONORABLE ILEANA ROS-LEHTINEN  
BEFORE THE  
SUBCOMMITTEE ON WATER RESOURCES  
APRIL 21, 1993

## PLEASE RESPOND TO

- 127 CANNON BUILDING  
WASHINGTON, DC 20515-0918  
(202) 225-3931
- DISTRICT OFFICE  
5757 BLUE LAGOON DRIVE  
(NW 11TH STREET)  
SUITE 240  
MIAMI, FL 33126  
(305) 262-1800

Mr. Chairman, I am pleased to have this opportunity to testify before this committee in support of "Save the Florida Bay Act of 1993" to protect the Florida Bay, a body of water which is of critical importance to the state of Florida.

The Florida Bay is of state-wide importance because it affects the environmental health of the Everglades. The Florida Bay is one of our state's most essential natural resources.

I urge you to support the "Save the Florida Bay Act of 1993" because immediate action is necessary to decrease the rapid deterioration of the bay. As we speak, there is massive seagrass die-off, and the abundant growth of algae threaten the economic character of the commercial and recreational fisheries in the area. Additionally, our country's only living coral reef system, located in the Florida Keys, is threatened by this declining water quality. Lack of fresh water drainage and disturbance of the natural flow of water in the Florida Bay have caused many environmental problems.

I request that this Subcommittee acknowledge the need to save our Florida Bay and consider "Save the Florida Bay Act of 1993" as an essential provision to the Clean Water Act. I look forward to working with my colleagues and the Subcommittee to save this indispensable natural resource. Thank you for considering our request.

Statement of the Hon. E. Clay Shaw, Jr.  
before the  
Subcommittee on Water Resources  
April 21, 1993

Mr. Chairman, I appreciate the opportunity to testify before you on a project that is vitally important to my home state of Florida. I am referring to legislation to save the Florida Bay.

If you have never had the pleasure of visiting this magnificent body of water, Florida Bay is located off the southern tip of Florida, between the Everglades National Park and the Florida Keys. Florida Bay serves as the principal nursery for Florida's largest commercial fishery, and its warm, clear tropical waters attract visitors from all over the world.

Unfortunately, today Florida Bay is a dying body of water. Its clear waters are turning murky, and the sea life which was once abundant is now disappearing at an alarming rate. The coral reefs off the Florida Keys, the only living coral reefs in the United States, are being threatened by the changes occurring in the Bay.

Although Florida Bay is not in my congressional district, I have a critical interest in this dying body of water. With the retirement last year of Congressmen Fascell and Lehman, I have become the senior Member of Congress from the South Florida area. I have long been interested in the environmental health of the Everglades, and my interest in Florida Bay is an extension of the growing concern I have had in restoring the natural flow of waters to the Everglades. Scientists agree that the environmental problems stem from the lack of fresh water drainage.

Poor decisions and poor planning made by the government years ago are the principal reasons for the decline of Florida Bay. Not properly dredging and channeling the water has disturbed the natural flow of the water to the bay. In 1992 alone, 55 square miles of seagrass have mysteriously died off, and the largest algae bloom ever found in Florida Bay was recorded last summer.

Because this is a national concern, especially with the Everglades National Park involved, I have reintroduced the "Save the Florida Bay Act of 1993" with support from the entire Florida delegation, after having first been introduced in the last Congress. Unfortunately, because the bill was introduced late in the Congress, on September 24, 1992, it was not acted on before Congress adjourned in October. On March 31, 1993, my reintroduced bill was referred to the House Merchant Marine and Fisheries, and Natural Resources Committees. Since its introduction, I have also received Florida Governor Chiles' support for the bill, through his letter to me of April 6, 1993. I have attached a copy of the letter for inclusion into the public record.

In summary, the Act would create an interagency committee, including representatives from the Department of Interior, the Environmental Protection Agency, the U.S. Army Corps of Engineers, and the National Marine Fisheries Service. The committee would be given a mandate to develop a program for facilitating the restoration of Florida Bay. The Secretary of the Interior would

also be directed to assist the Superintendent of the Everglades National Park in administering an action plan to research the problems plaguing Florida Bay, including an assessment of the effects of Hurricane Andrew. An authorization of \$3 million would be designated for use by the Secretary of the Interior to aid in implementing the plan. I have attached a copy of the Act, H.R. 1564, for your perusal.

It is important to note that my approach would not detract from existing efforts, but would serve as a starting point for the federal government in addressing the environmental concerns of Florida Bay. I am also open to recommendations from other interested parties should there be some additional ideas that would make the Act more effective.

Senator Mack and Senator Graham are currently preparing the Senate version of my bill, but it is unclear right now what timetable the Senate may operate under with regard to the bill.

The Clean Water Act is an important piece of environmental legislation that deserves priority during the 103rd Congress. Because your subcommittee is presently holding hearings on this significant Act, it is my hope that the subcommittee will recognize the urgent need to save Florida Bay. I am therefore requesting the subcommittee's serious and favorable consideration of the "Save the Florida Bay Act of 1993" as a necessary provision to the Clean Water Act.

The time to act is now. I look forward to working with the subcommittee to save Florida Bay, one of Florida's most vital natural resources. I thank the subcommittee for consideration of my request.



## THE GOVERNOR OF THE STATE OF FLORIDA

LAWTON CHILES

April 6, 1993

Honorable E. Clay Shaw, Jr., M.C.  
 Twenty-Second Florida District  
 2267 Rayburn House Office Building  
 Washington, D.C. 20515

Dear Clay:

I am pleased that you have introduced the "Save Florida Bay Act of 1993." Restoration of the entire Everglades system, including Florida Bay, is a top priority of mine. I recently wrote to Secretary Babbitt concerning restoration of the Everglades system and the critical conditions in Florida Bay. A copy of that letter is enclosed. I strongly support your efforts to focus action on and provide funding for the Bay.

Conditions in Florida Bay have deteriorated over the last several years. Massive seagrass die-off and algal blooms threaten the economic integrity of both the commercial and recreational fisheries of the area. In addition, declining water quality conditions threaten this nation's only living coral reef system in the Florida Keys. Many in the scientific community believe that the problems in the Bay are due, at least in part, to reduced freshwater flow from the Everglades. Others believe the main problem is water quality.

I hope that you and the Florida delegation are successful in gaining full congressional support for this very important environmental objective -- a clean and healthy Florida Bay.

With kind regards, I am

Sincerely,

A handwritten signature in cursive script that reads "Lawton Chiles".

LAWTON CHILES

LC/ddt  
 Enclosure

cc: Florida Congressional Delegation



THE GOVERNOR OF THE STATE OF FLORIDA

March 22, 1993

LAWTON CHILES

The Honorable Bruce Babbitt  
 Secretary  
 Department of the Interior  
 1849 C Street, Northwest  
 Washington, D.C. 20240

Dear Bruce:

Thank you for addressing the Everglades Coalition in Tallahassee and meeting with me to discuss the restoration of the Everglades ecological system. The Everglades is not only important to Florida, but it is also a national treasure. While much has been accomplished since the Save Our Everglades Program began in 1983, a great deal remains in our quest to restore this system which spans from Orlando to Florida Bay.

Your commitment to restoration is most timely. I particularly appreciate your support for a re-evaluation of the entire water management system of South Florida. While the current system has served a beneficial purpose in the growth of South Florida, this system which was actually begun over 100 years ago warrants an evaluation relative to today's and tomorrow's needs.

Conditions in Florida Bay have deteriorated over the last several years. Many in the scientific community believe that the problems in the bay are due, at least in part, to reduced freshwater flows from the Everglades. Massive seagrass die-off and algal blooms threaten the economic integrity of both the commercial and recreational fisheries of the area. In addition, declining water quality conditions threaten this nation's only living coral reef system in the Florida Keys. Returning clean fresh water into the bay and implementation of the plans to improve water quality in the Florida Keys National Marine Sanctuary should help to improve conditions in the bay.

We would likewise appreciate your assistance in obtaining funding for scientific research, acquisition of land and project construction for restoring Northeast Shark River Slough, Taylor Slough and Florida Bay.

The Honorable Bruce Rabbitt  
March 22, 1993  
Page Two

Bruce, your enthusiastic support for our efforts to protect and restore Florida's environment is extremely important. It gives us new enthusiasm in the pursuit of this paramount environmental objective - a clean and healthy Everglades System.

With kind regards, I am

Sincerely,



LAWTON CHILES

LC/ddt

cc: Florida Congressional Delegation

103D CONGRESS  
1ST SESSION

# H. R. 1564

To save Florida Bay.

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## IN THE HOUSE OF REPRESENTATIVES

MARCH 31, 1993

Mr. SHAW (for himself, Mr. DEUTSCH, Mr. LEWIS of Florida, Ms. ROS-LEHTINEN, Mr. BILIRAKIS, Mr. STEARNS, Mr. MCCOLLUM, Mr. GOSS, Mr. GIBBONS, Mr. BACCHUS of Florida, Mr. JOHNSTON of Florida, Mr. MILLER of Florida, Mr. HASTINGS, Mr. HUTTO, Mr. DIAZ-BALART, Mr. MICA, Mr. PETERSON of Florida, Mrs. THURMAN, Mrs. FOWLER, Ms. BROWN of Florida, Mr. CANADY, Mr. YOUNG of Florida, and Mrs. MEEK of Florida) introduced the following bill; which was referred jointly to the Committees on Merchant Marine and Fisheries and Natural Resources

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## A BILL

To save Florida Bay.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the "Save Florida Bay Act  
5 of 1993".

6 **SEC. 2. FINDINGS.**

7 The Congress finds the following:

8 (1) Florida Bay is vitally important to both the  
9 economy and ecology of the State of Florida.

1           (2) Florida Bay's environmental health has  
2       been deteriorating at a rapid rate, which for un-  
3       known reasons is presently accelerating.

4           (3) Florida Bay is the principal nursery for  
5       Florida's largest commercial and sport fishing fish-  
6       eries.

7           (4) 55 square miles of seagrasses in Florida  
8       Bay have died since 1987.

9           (5) The number of pink shrimp caught after  
10      maturing in Florida Bay is near a 30-year low.

11          (6) Mangroves and sponges in Florida Bay are  
12      dying at an alarming rate.

13          (7) Florida Bay is currently abnormally saline  
14      and warm, causing an unhealthy habitat for juvenile  
15      shrimp, lobster, fish, and other creatures.

16          (8) The nearby coral reefs, the only living coral  
17      reefs in the Nation, are endangered by the changes  
18      occurring in Florida Bay.

19          (9) The most massive plankton bloom ever  
20      found in Florida Bay was recorded in the summer  
21      of 1992 and still exists.

22          (10) A dearth of knowledge exists on how Flor-  
23      ida Bay's ecosystem functions.

1 **SEC. 3. ESTABLISHMENT OF COMMITTEE.**

2 Not later than 30 days after the date of the enact-  
3 ment of this Act, the Chairman of the Council on Environ-  
4 mental Quality (in this Act referred to as the "Chair-  
5 man") shall establish and thereafter coordinate an inter-  
6 agency committee, including representatives from the De-  
7 partment of the Interior, the Environmental Protection  
8 Agency, the Corps of Engineers, and the National Marine  
9 Fisheries Service, to develop a program for facilitating the  
10 restoration of Florida Bay and to define the roles and re-  
11 sponsibilities of each of those agencies in facilitating that  
12 restoration.

13 **SEC. 4. SENSE OF CONGRESS REGARDING INCLUSION OF**  
14 **FLORIDA BAY IN COASTAL AMERICA PRO-**  
15 **GRAM.**

16 It is the sense of the Congress that not later than  
17 30 days after the date of the enactment of this Act, the  
18 Chairman should include Florida Bay as part of the  
19 Coastal America program.

20 **SEC. 5. FLORIDA BAY ELIGIBLE FOR PRIORITY CONSIDER-**  
21 **ATION UNDER NATIONAL ESTUARY PRO-**  
22 **GRAM.**

23 Section 320(a)(2)(B) of the Federal Water Pollution  
24 Control Act (33 U.S.C. 1330(a)(2)(B)) is amended by in-  
25 serting "Florida Bay, Florida;" after "Sarasota Bay,  
26 Florida;".

1 **SEC. 6. STUDY.**

2 (a) **STUDY REQUIRED.**—Not later than 30 days after  
3 the date of the enactment of this Act, the Secretary of  
4 the Interior shall direct the superintendent of the Ever-  
5 glades National Park to conduct a study of the problems  
6 plaguing Florida Bay, including an assessment of the im-  
7 pact of Hurricane Andrew. Such study shall be completed  
8 no later than September 30, 1993, and upon completion  
9 the Secretary of the Interior shall submit a report to the  
10 Congress describing the findings, conclusions, and rec-  
11 ommendations of the study.

12 (b) **AUTHORIZATION OF APPROPRIATIONS.**—There is  
13 authorized to be appropriated to the Secretary of the Inte-  
14 rior for the study under subsection (a) \$3,000,000 for fis-  
15 cal year 1994, to remain available until expended.

○

PETER J. VISCLOSKY  
1ST DISTRICT, INDIANA

COMMITTEE ON APPROPRIATIONS  
CONGRESSIONAL STEEL CAUCUS  
EXECUTIVE COMMITTEE CHAIRMAN

NORTHEAST-MIDWEST  
CONGRESSIONAL COALITION  
MIDWEST VICE-CHAIR  
WHIP-AT-LARGE

**Congress of the United States**  
**House of Representatives**  
**Washington, DC 20515-1401**

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(202) 225-2481

215 WEST 35TH AVENUE  
GARY, IN 46408  
TTY-TDD SERVICE AVAILABLE  
(219) 884-1177

PORTAGE CITY HALL  
8070 CENTRAL AVENUE  
PORTAGE, IN 46368  
(219) 783-2904

**Statement of Congressman Peter J. Visclosky (D-IN)**  
**In Support of Establishing a National Clean Water Trust Fund**

**Subcommittee on Water Resources and Environment**  
**Hearing on the Re-authorization of the Clean Water Act**

April 21, 1993

I appreciate the opportunity to be here this morning as the Water Resources and Environment Subcommittee continues its hearings on the re-authorization of the Clean Water Act. I would like to commend you, Mr. Chairman, as well as the other Subcommittee members, for your fine work and commitment to facilitate the re-authorization process.

The congressional district I represent is in Northwest Indiana, located in the Great Lakes "water belt" on the southern tip of Lake Michigan. Northwest Indiana has abundant rivers and wetlands, and it is home to the Indiana Dunes National Lakeshore. As you may know, the Indiana Dunes National Lakeshore is the most visited national park in the Great Lakes region, and it has the greatest diversity of plant life of any national lakeshore or national seashore in the National Park System. These natural treasures co-exist with a major, urban industrial center. Indeed, Indiana's First Congressional District is the largest steel-producing district in the country, making over 20 percent of our nation's steel. I am keenly aware of the importance of balancing our efforts to improve Northwest Indiana's, and the nation's, water quality with economic development concerns.

National Clean Water Trust Fund:

Toward that goal, I would like to focus your attention on legislation I am introducing today to expedite the clean-up of our nation's waters. This bill, the National Clean Water Trust Fund Act of 1993, which is similar to legislation I introduced in the 102nd Congress (H.R. 2724), would create a trust fund established from fines, penalties, and other moneys collected through enforcement of the Clean Water Act to help alleviate the problems for which the enforcement actions were taken.

Currently, there is no guarantee that fines or other moneys that result from violations of the Clean Water Act will be used to correct water quality problems. Instead, some of the money goes into the general fund of the U.S. Treasury without any provision that it be used to improve the quality of our nation's waters.

Purpose:

I am concerned that EPA enforcement activities are extracting large sums of money from industry and others through enforcement of the Clean Water Act, while ignoring the fundamental issue of how to pay for the clean-up of the water pollution problems for which the penalties were levied. If we are really serious about ensuring the successful implementation of the Clean Water Act, we should put these enforcement funds to work and actually clean-up our nation's waters. It does not make sense for scarce resources to go into the bottomless pit of the Treasury's general fund, especially if we fail to solve our serious water quality problems due to lack of funds.

Statement of Rep. Peter J. Visclosky  
Page 2  
April 21, 1993

Specifically, my bill would establish a National Clean Water Trust Fund within the U.S. Treasury for fines, penalties, and other moneys, including consent decrees, obtained through enforcement of the Clean Water Act that would otherwise be placed into Treasury's general fund. Under my proposal, the EPA Administrator would be authorized to prioritize and carry-out projects to restore and recover waters of the United States using the funds collected from violations of the Clean Water Act. However, this legislation would not preempt citizen suits or in any way preclude EPA's authority to undertake and complete supplemental environmental projects (SEPs) as part of settlements related to violations of the Clean Water Act and/or other legislation.

For example, last month, Inland Steel announced a \$54.5 million multi-media consent decree, which includes a \$26 million SEP and a \$3.5 million cash payment to the U.S. Treasury. I strongly support the use of SEPs to facilitate the clean-up of serious environmental problems, which are particularly prevalent in my congressional district. However, my bill would dedicate the cash payment to the Treasury to the Clean Water Trust Fund.

The bill further specifies that remedial projects be within the same EPA Region where enforcement action was taken. Northwest Indiana is in EPA Region 5, and there are ten EPA Regions throughout the United States. Under my proposal, any funds collected from enforcement of the Clean Water Act in Region 5 would go into the National Clean Water Trust Fund and, ideally, be used to clean-up the specific problem for which the fine was levied.

My bill also instructs EPA to coordinate its efforts with the states in prioritizing specific clean-up projects. Finally, to monitor the implementation of the National Clean Water Trust Fund, I have included a reporting requirement in my legislation. One year after enactment, and every two years thereafter, the EPA Administrator would make a report to Congress regarding the establishment of the trust fund.

#### Extent of Clean Water Act Penalties:

To illustrate how a National Clean Water Trust Fund would be effective in cleaning up our nation's waters, I would like to highlight the magnitude of the fines that have been levied through enforcement of the Clean Water Act. Nationwide, in Fiscal Year (FY) 1992, EPA assessed \$61 million in penalties for violations of the Clean Water Act. These penalties represented 43 percent of all penalties assessed by EPA under various environmental statutes.

Statement of Rep. Peter J. Visclosky  
Page 3  
April 21, 1993

In Region 5 alone, in FY 1992, EPA collected \$2,270,500 in civil penalties for violations of the Clean Water Act. These funds were the result of 5 consent decrees and 11 administrative penalty orders. So far this year, EPA Region 5 has collected \$2,357,500 in civil penalties for violations of the Clean Water Act.

Endorsements:

I am pleased to inform you that my legislation has already garnered the endorsement of several environmental organizations in Northwest Indiana, including the Grand Calumet Task Force, the Northwest Indiana Chapter of the Izaak Walton League, and the Save the Dunes Council. Further, I am encouraged by the initial support within the national environmental community and the Northeast-Midwest Congressional Coalition for the concept of a National Clean Water Trust Fund.

I would also like to point out that, in a 1992 report to Congress on Clean Water Act enforcement mechanisms, an Environmental Protection Agency (EPA) workgroup recommended amending the Clean Water Act to establish a National Clean Water Trust Fund. Without objection, I would ask that the hearing record remain open so that additional comment could be received on this proposal.

Other Clean Water Act concerns:

So far this morning, I have focused your attention on what I believe would be part of the solution to improving the Clean Water Act. However, as we know all-too-well, the magnitude of the challenge is staggering. There are tremendous needs in terms of funding -- even with the resources of my proposed National Clean Water Trust Fund.

I would like to emphasize my strong support for improvements in and increased funding for programs to address contaminated sediment remediation, wastewater treatment, control of stormwater discharges, and combined sewer overflow (CSO) policy in the re-authorization of the Clean Water Act. There is no question that all of these issues need to be addressed to improve our nation's water quality. However, it is less clear how states and municipalities are going to be able to comply with more stringent federal mandates without enhanced federal funds.

Statement of Rep. Peter J. Visclosky  
Page 4  
April 21, 1993

I recently surveyed local officials in Northwest Indiana to better understand their various needs, as well as the cost that would be involved. I was informed that the price tag for the necessary projects would be over \$118 million. Mr. Chairman, I would be happy to provide you and the other Subcommittee members, as well as your respective staffs, with a more detailed analysis of these individual projects should there be an opportunity to discuss worthy demonstration projects or other earmarked funding in the Clean Water Act re-authorization.

In re-authorizing the Clean Water Act, we have a unique opportunity to improve the quality of our nation's waters. The establishment of a National Clean Water Trust Fund is an innovative step in that direction. By targeting funds accrued through enforcement of the Clean Water Act -- that would otherwise go into the Treasury Department's general fund -- we can put scarce resources to work and facilitate the clean-up of problem areas throughout the Great Lakes and across this country. I look forward to working closely with you, Mr. Chairman, and the other members of the Water Resources and Environment Subcommittee in the re-authorization process, and I would hope to have your support in establishing a National Clean Water Trust Fund.

Thank you.

*New and P  
facs*

ADDITIONS TO THE RECORD

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## Coalition for Health Concern

Route 0, Box 25  
Benton, Kentucky 42025  
(502) 527-1217

April 12, 1993

The Honorable  
Douglas Applegate  
Committee on Public Works  
and Transportation  
Rayburn Office Building  
U.S. House of Representatives  
Washington D.c. 20515

Dear Congressman Applegate:

Please include our comments as part of the formal hearing record on the Clean Water Act Reauthorization:

1. Our county of Marshall is listed as one of the top TEN counties in the U.S. in the permitted discharge of toxics and cancer causing chemicals into the Tennessee River. The discharges are from the Calvert City chemical complex.
2. We are concerned about the increased numbers of rare types of cancer, leukemia, brain tumors, lupus and children with cancer that we see here.

We make the following recommendations:

- A. EPA recommendations that the "single operational upset" defense and preclusive effect of prior state administrative actions be eliminated.
- B. Mandatory minimum penalties should be imposed for serious and chronic violations. The "Fox guarding the chickens" has not worked with the self reporting by industries. EPA and the states must be authorized to assure compliance.

Page 2

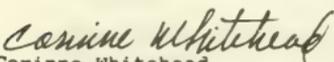
- C. So long as industries profit by violations the Clean Water Act will not be effective. Give the Courts and EPA the rigid authority and mandate to recover the economic benefit due to non-compliance
  - D. Require EPA to make its database on permit compliance available to the public. Increase Citizen Oversight of State-issued permits along with EPA increased oversight.
3. All priority pollutants in the Clean Water Act should be included in the Toxic Release Inventory.
- A. Non-manufacturing facilities that release toxics should be subject to reporting requirement, including federal facilities, publicly-owned treatment works, hazardous waste incinerators, cement kilns that burn toxics and hazardous waste.
  - B. Assure that non-compliance by industries and facilities that pollute is widely publicised. Presently, it is almost impossible to determine what is going on. Public notices in Post Offices and Court Houses should be required.
  - C. The public pays for the Publicly Owned Treatment Works(POTWs) and the public has the right to know about the violations of the standards for pollutants dumped into the sewers by trucking terminals, industries and facilities that handle toxics. Include the information in the bills to customers.
4. POLLUTION PREVENTION LANGUAGE MUST BE ADDED TO THE CLEAN WATER ACT.
- A. Phase out the most hazardous and toxic substances.
  - B. Reduce toxic chemical use in the first place.
  - C. Improve treatment & discharge controls & close the "dilution is the solution to pollution" loophole.
5. The Clean Water Act should require that the EPA shall assess a fee to cover the costs of permit issuance, compliance monitoring by EPA and the states.

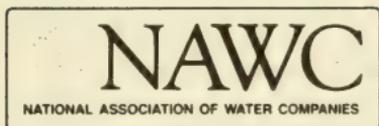
Page 3

- A. Require that all effluent limitations and monitoring requirements be expressed in terms of total mass of each toxic pollutant discharged, in addition to concentration.
- B. AMEND SECTION 301 TO PROHIBIT MIXING ZONES FOR TOXICS, including zones of initial dilution and dilution with stream flow or lake volume and require attainment of chronic criteria at the end of pipe.
- C. Amend Section 303 to require states to revise their water quality standards and regulations to prohibit the use of mixing zones or dilution for all but conventional pollutants.

WE ARE ASHAMED THAT KENTUCKY REMOVED ALL RESTRICTIONS ON THE DISCHARGE OF DIOXINS TO THE WATERS OF THE STATE AT THE BEHEST OF THE PAPER AND HAZARDOUS WASTE INCINERATION INDUSTRIES. WE URGE STRICT REQUIREMENT FOR DEADLY CHEMICALS INCLUDING DIOXIN IN THE REGULATIONS OF THE CLEAN WATER ACT.

Respectfully,

  
Corinne Whitehead  
President



JAMES B. GROFF, EXECUTIVE DIRECTOR

TESTIMONY OF  
THE NATIONAL ASSOCIATION OF WATER COMPANIES  
BEFORE  
THE SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT  
CONCERNING  
REAUTHORIZATION OF THE FEDERAL WATER POLLUTION CONTROL ACT  
PRESENTED BY  
J. JAMES BARR, VICE PRESIDENT AND CHIEF FINANCIAL OFFICER  
AMERICAN WATER WORKS COMPANY

APRIL 21, 1993

Good morning Mr. Chairman. My name is Jim Barr. I am Vice President and Chief Financial Officer of the American Water Works Company. American is the largest investor-owned water utility in the country, serving over 5 million people in 606 communities in 20 states.

I am also Chairman of the Board of the National Association of Water Companies. The National Association of Water Companies (NAWC) is the trade association representing the nation's investor-owned water utilities. Its 360 members in 41 states provide safe, reliable drinking water to over 22 million Americans every day. Our member companies provide service from Pine Bluff, Arkansas to Chattanooga, Tennessee and from San Jose, California to Marion, Ohio. Our members employ a combined work force in excess of 15,000. In 1991, these companies had operating revenues of \$2.3 billion and gross utility plant of \$9 billion. Shares in 18 of our largest member companies are publicly traded. Ten of our companies also provide wastewater service to 350,000 persons nationwide.

Mr. Chairman, I applaud your leadership in holding this series of hearings on the Clean Water Act (CWA). My company and other NAWC members, some of whom own or operate wastewater treatment facilities, are directly affected by the requirements of this Act. The experience of these companies demonstrates that the private sector can play a role in the provision of wastewater services. We believe the private sector can - and should be encouraged to - play a larger role in providing wastewater treatment facilities. Changes to the Clean Water Act to affect this end will be the main focus of my statement today. I will also touch on the need to strengthen section 319, concerning non-point source pollution, to recognize protection of drinking water supplies.

#### Encouragement of Public-Private Partnerships in the Provision of Wastewater Treatment Facilities

The goals of the Clean Water Act are to eliminate the discharge of pollutants into navigable waters and attain waters deemed fishable and swimmable. While these goals have not yet been achieved, 75 percent of assessed waters do comply with standards for conventional pollutants. This success was not cheap. Since 1972, Congress has provided \$57 billion in grants for the construction of treatment works and authorized another \$8.4 billion for the state revolving fund (SRF) program which replaced the grant program in 1987.

But the need for funds remains great. In its 1988 needs survey, the EPA estimated total construction needs at \$83.5 billion through 2008. At current levels, the SRF will meet only 31 percent of States' wastewater treatment needs by 2001. This percentage will actually be reduced through competition for SRF monies from the

National Estuaries Program, non-point source pollution control and other worthy programs.

In addition, these needs come during a time when the demand for scarce federal resources is fierce and growing. This limits the ability of the federal government to provide additional funds for any programs under the Clean Water Act. Making the private sector a partner in the provision of wastewater treatment facilities is one way additional resources can be raised to address these needs. I recommend two changes to the Act that will facilitate the ability of the private sector to invest in wastewater treatment facilities.

First, the Clean Water Act should be modified to encourage the establishment of public-private partnerships to construct and manage treatment works. Under current law (section 601(a)(1)), SRF funds are only available for treatment works which are publicly owned. Modifying this section to permit SRF monies to be used in conjunction with private funds could leverage additional monies which will help close the need gap described above and free-up more funds for other important programs authorized under the Act.

Such a program is not without precedent. The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), permits up to 50 percent of the funds for construction of toll roads to come from the highway trust fund. This Committee's report on this provision makes reference to water and sewer infrastructure as follows: "the public-private partnership is important and should be encouraged. From the Federal perspective, one of the ways to approach infrastructure improvement would be to ease unnecessary Federal constraints preventing the mixing of Federal dollars with private funds on projects". The Committee looked to the private sector not only to "bring new sources of capital to infrastructure projects" but also to "expedite the completion of projects with the efficiencies of the private sector".<sup>1</sup>

A fully privatized wastewater treatment plant in Auburn, Alabama, supports the Committee's contention. According to EPA, the plant saved the city \$25 million in costs over the life of the project and enabled the facility to go on line in one-quarter of the time of similar, non-privatized facilities.

As with the ISTEA toll road provision, using SRF funds to finance public-private partnerships would not be a requirement of the Act. Rather it would be an option available to state and local governments as a method to leverage additional funds for treatment plant construction. At Appendix A you will find a paper describing how such a program might be structured.

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<sup>1</sup> House Committee on Public Works and Transportation; House Report No. 102-171(I); July 26, 1991; pgs. 13-24.

Second, a definition of a "publicly-owned treatment work" should be added to the Clean Water Act. Such a definition should be based on purpose rather than ownership. The Safe Drinking Water Act (SDWA) clearly defines drinking water systems by purpose rather than ownership.<sup>2</sup> This provides for uniform environmental regulation of a drinking water system whether owned by one of our member companies or a municipality.

In contrast, the Clean Water Act does not define a "publicly-owned treatment work" (POTW). It does acknowledge the existence of privately owned treatment works in section 201(h) and EPA regulations have recognized a distinction. Under regulatory treatment, this is a distinction with a difference.

For example, a privately-owned wastewater treatment facility loses the domestic sewage exclusion provided to POTWs under the Resource Conservation and Recovery Act (RCRA). This exclusion exists to avoid duplicative CWA and RCRA permits for the same unit. A private facility is subject to Best Available Technology Economically Available/Best Conventional Pollutant Control Technology requirements, while a public one is subject to secondary treatment requirements. Two very different requirements.

Different requirements based on ownership are required by the Clean Water Act. But they are not necessary to provide clean water. They merely serve as barriers to entry of the private sector and a barrier to the transfer of facilities between private and public ownership. Entirely different requirements would apply to a treatment facility sold by a municipality to a private investor, even though the purpose of the facility and its customer base remain unchanged.

I strongly urge the Committee to amend the Clean Water Act to provide a single and clear definition of a wastewater treatment facility based on purpose rather than ownership. Such a change will provide uniform regulations for all such facilities. This in turn will provide local governments the flexibility to make arrangements for the provision of wastewater services that meet local needs. A single definition of a treatment facility based on purpose allows for a facility that is 100 percent publicly-owned,

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<sup>2</sup> Section 1401(4) of the Safe Drinking Water Act reads: "The term "public water system" means a system for the provision to the public of piped water for human consumption, if such system has at least fifteen service connections or regularly serves at least twenty-five individuals. Such term includes (A) any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system, and (B) any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system."

100 percent privately-owned or any percentage in between.

#### Non-Point Source Pollution

America's drinking water suppliers are the nation's front-line environmentalists. Long before enactment of the Safe Drinking Water Act, water suppliers took steps to ensure the safety and quality of drinking water. Disinfection of drinking water to kill microbial contaminants, hailed as the greatest benefit to public health this century, has been routine for almost 100 years. Our historical commitment to protecting the public health continues to this day with our support of and compliance with the stringent requirements of the Safe Drinking Water Act.

But compliance is not cheap. Over the course of this decade, EPA estimates water suppliers will have to invest \$2.5 billion a year to comply with SDWA requirements. This is in addition to an annual investment of \$10 billion for maintenance, expansion and improvement of drinking water infrastructure. We and our customers are naturally eager to keep these costs as low as practicable. One way this can be done is by enhancing the protection of drinking water supplies.

As stated above, the Clean Water Act has as its goal fishable and swimmable waters. Great steps have been taken towards this end, yet every year billions of tons of pollutants find their way to both surface and groundwater, largely through run-off from non-point pollution sources. The largest source of non-point pollution is pesticide, fertilizer and animal waste run-off from farms.

The federal government regulates "both ends of the pipe"; drinking water quality through the Safe Drinking Water Act, pesticide and fertilizer application through the Federal Insecticide, Fungicide and Rodenticide Act. These acts should be complimentary. In other words, when a drinking water standard is set by the federal government, it should not at the same time bless activities which are likely to lead to violation of those standards. The left and right hands must work in concert.

The Safe Drinking Water Act regulation governing pesticides and nitrates became effective on January 1, 1993. If monitoring reveals pesticides or nitrates at levels exceeding the prescribed MCL, drinking water systems will have to install facilities for their removal.

This is no idle concern. Two years ago, the Missouri River Public Water Supplies Association performed a monitoring study to determine pesticide levels in this mighty river. It found atrazine

at levels above the maximum contaminant level (MCL) established under the SDWA. A subsequent study by the US Geological Survey (USGS) confirmed these findings. Both of these studies may be found at Appendix B.<sup>3</sup>

Should average pesticide levels exceed the MCL, systems will have to install granular activated carbon (GAC) to treat the water and comply with the MCL. A large utility in Missouri serving a million persons has estimated that financing the installation of GAC will require a 70 percent rate increase! Nitrates pose a similar problem; their treatment can cause significant cost increases as well.

These costs should not be borne by our customers when they can be avoided. Section 319 of the Clean Water Act provides for the establishment of state plans to reduce non-point source pollution. But these plans only apply to water quality standards issued under the Clean Water Act. I recommend that section 319 (a) and (b) be modified to recognize the protection of drinking water quality as a goal of state non-point source management programs. You will find proposed bill language at Appendix C.

In Putting People First, President Clinton calls for stronger non-point source standards. He also advocates placing "greater emphasis on preventing and reducing pollution before it happens, so we won't have to spend so much on cleaning it up after the fact". Finally, he states polluters should pay. Our proposed changes to section 319 conform with these policy goals.

#### Conclusion

The changes described above will help produce a more effective and efficient Clean Water Act. This will hasten the achievement of its worthy goals - fishable and swimmable waters. Adoption of our amendments will also make compliance with SDWA requirements easier.

We appreciate this opportunity to provide testimony on the Clean Water Act and look forward to working with you on these issues during reauthorization. Please feel free to contact the NAWC if you require additional information on any of these items.

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<sup>3</sup> The USGS is also gathering additional water quality data over the remainder of the decade. Its National Water Quality Assessment Program will perform intensive assessment activity in 60 study areas. Twenty four-year studies began in FY91 with an additional twenty to begin each in FY94 and FY97. Upon completion, these studies will provide invaluable data to our member companies concerning pollution levels and sources nationwide.

**A PROPOSAL FOR  
PUBLIC-PRIVATE PARTNERSHIPS  
IN THE  
WASTEWATER TREATMENT INDUSTRY**

**Background**

Increased Federal support, in the form of State Revolving Funds, is critical to spur treatment plant construction projects to increase capacity, address treatment needs and develop new technologies to reduce nitrogen pollution. Federal monies invested in additional wastewater treatment construction will strengthen regional economies, and create critically needed jobs in the construction industry, related businesses, service providers and suppliers.

In its 1988 Needs Survey, the EPA estimated that a total of \$83.5 billion would be required for construction of new wastewater treatment facilities through 2008. At current levels the State Revolving Loan Fund (SRF) will meet only 32 percent of states' wastewater treatment needs by 2001.

These needs come during a particularly critical time when the demand for scarce Federal resources is fierce and growing and when the Federal Government has projected a deficit of \$300 billion next year. This limits the ability of the Federal Government to provide more resources for the Clean Water Act. To meet the growing need for additional wastewater treatment capacity, innovative approaches are required to provide additional financial resources.

It has been argued that government's role is to ensure that essential public services are provided, not necessarily to provide those services. Involving the private sector in this effort through privatization initiatives or a public-private partnership (P-3) is a way for government to provide public services, stretch tight financial resources with private sector investment and generally help save money through more efficient operations.

In this light, it is believed that through public-private partnerships, communities can gain additional resources to meet their ongoing needs for the construction and upgrading of wastewater treatment facilities. Therefore, this proposal recommends that the Clean Water Act (CWA) be modified to encourage the establishment of public-private partnerships to construct and manage sewage treatment plants. Under current law, Section 601(a)(1) of the CWA, State Revolving Funds are only available for treatment works that are publicly owned. Modifying this

section to authorize P-3 initiatives will permit SRF monies to be used in conjunction with private funds which will leverage additional billions *and* help close the need gap described above.

As a means of demonstrating the effectiveness of P-3 initiatives, we recommend that the Clean Water Act be modified to permit SRF fund to be used in conjunction with private funds for the construction, expansion, rehabilitation or modernization of wastewater treatment facilities.

(Note: If the current EPA Pilot Program is cancelled, you may want to consider authorizing the Administrator to designate pilot programs that would increase the level of funding available to the states to match SRF funds. This pilot program approach would recognize that P-3 initiatives are a new way of augmenting the federal granting procedure to states for the privatization of wastewater treatment plants and would allow a period to assess the effectiveness of this new program and solve any issues that may become apparent in privatizing sewage treatment plants.)

#### Public-Private Partnerships

A public-private partnership is a contractual relationship between a public and private partner that commits both to providing an agreed upon service. In terms of the wastewater treatment industry, the private sector can be involved in a variety of ways, ranging from the initial design of a sewage treatment facility, its construction, expansion, rehabilitation, or modernization to its daily operation and maintenance. Private sector participation not only can stretch scarce federal dollars but through contract management can help make the facility's operations more cost-effective, thereby reducing the tax burden on the local community.

To help improve the condition of the nation's major estuaries, this proposal recommends giving state and local governments more freedom to privatize facilities financed totally or partially by the Federal government. Additionally, Federal funds should be permitted to be applied to a broad range of P-3 initiatives at the state and local levels to expedite the construction, expansion, rehabilitation or modernization of sewage treatment plants.

The following is a list of P-3 concepts that could be employed for public-private partnerships and to which Federal funds could be used in conjunction with the private sector:

- o **Contract Services:** The private sector is contracted for a fee to provide a specific service, ranging from the operation of a wastewater treatment plant or a particularly troubled department, to billing services, bill collection, security services, or automated mapping and facilities management. The facility is owned by the public sector.

- o **Turnkey Facility:** The private sector designs, constructs and operates the wastewater treatment facility. The plant is turned over to the public sector, which retains ownership, or its leased back to the private contractor. Federal funding participation is in whole or in part. Depending on the financial and ownership structure, the contractor is paid a fee to operate the plant that is sufficient to cover costs, provide a profit and/or a return on investment.
- o **Developer Financing:** The private sector participates in financing the construction or expansion of a wastewater treatment plant in return for a right of use. The facility is owned by the public sector, but the developer is paid a fee to operate the plant, which is sufficient to cover costs, earn a profit and a return on investment.
- o **Privatization:** Through the build, own and transfer model (BOT), the private sector builds, owns and operates the wastewater treatment plant, partially financing the facility. At the end of a specified period, such as 30 years, the plant may be transferred to the public sector for a nominal fee. Through a special purpose corporation structure, the contractor operates the plant for a fee that is sufficient to cover costs, earn a profit and a return on investment. A public authority levies and collects the fees paid to the contractor.

#### **Federal Participation Defined**

Congress should amend the Clean Water Act during this session to permit the Administrator of the Environmental Protection Agency to authorize Federal funding and participation in partnership with the State and the private sector to spur construction and development of the nation's sewage treatment plants. Under this option, Federal participation would be permitted in whole or in part to encourage private development in the following areas:

- o Construction of new wastewater treatment plants and related facilities;
- o Expanding, modernizing, installing new process technology, and rehabilitating a wastewater treatment plant and its related facilities;
- o Reconstructing or replacing a wastewater treatment plant and its related facilities;
- o Feasibility studies to determine the need for a sewage treatment facility to be built, expanded, modernized, rehabilitated, the effectiveness of a new process technology or to determine if it is cost-effective for the contract management of all or part of a wastewater treatment plant operation;

### Federal Participation Levels

- Under this proposal, SRF funds could be used to fund up to 50 percent of the cost for:
- o The initial construction of a wastewater treatment plant and its related facilities;
  - o expansion, modernization, or installation of new process technology, rehabilitating;
  - o Reconstructing, upgrading or replacing facilities;
  - o Conducting preliminary feasibility studies to determine the need for one of the above actions or to determine if it is cost-effective to use contract management of the sewage treatment plant operations.

### Ownership

Federal participation is currently allowed on publicly owned facilities. To facilitate private ownership, the CWA definition of Publicly Owned Treatment Works should change to recognize the purpose of the facility rather than the ownership. Under current law, a privately-owned POTW is treated differently than a true POTW. For example, a privately-owned POTW loses the domestic sewage exclusion under RCRA and is subject to BAT/BCT requirements rather than secondary treatment requirements.

To facilitate transfer of POTWs to the private sector, all wastewater treatment works should be defined by purpose (Public Purpose Treatment Works) and apply the same regulations regardless of ownership. The Safe Drinking Water Act has always recognized water systems by purpose rather than ownership; regulations are uniform and apply to all drinking water systems.

### Use of Revenues From Facility

Before Federal participation can be authorized by the Administrator, the public authority responsible for the wastewater treatment plant must enter into an agreement with the Administrator which provides: that the revenues received from the operation of the facility will be used first for debt service; for a reasonable return on investment of any private party or entity financing the project; for the costs necessary to operate and maintain the plant whether directly or through contract management.

### Loans

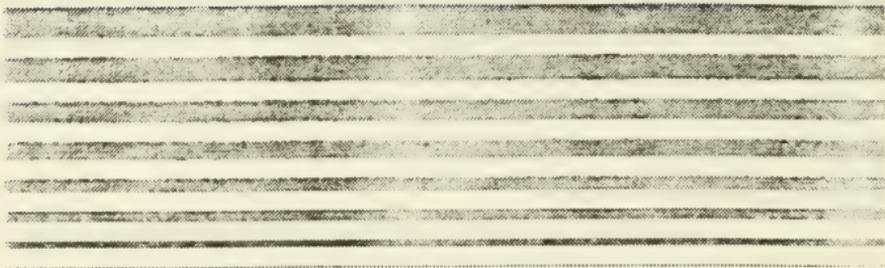
Under this proposal, loan terms would remain the same as required under current SRF programs.

**Authorization for Federal Participation In P-3 Initiatives**

If it becomes apparent that a P-3 program for the wastewater treatment industry cannot be implemented as suggested, then consideration could be given to authorizing the EPA Administrator to initiate pilot demonstration projects in key areas as a way to demonstrate in the short-term the effectiveness of public-private partnerships. If this becomes the case, then the following guidelines are suggested:

- o The Administrator will designate three wastewater treatment plant improvement projects to serve as P-3 pilot programs for the implementation of approved conservation and management plans.
- o For the purpose of selecting P-3 pilot programs, the Administrator will give priority status to those approved conservation and management plans with the greatest funding deficit.
- o In a pilot project, the Administrator would enter into an agreement with a community and the state to explore opportunities for private sector involvement, which would share in funding the P-3 pilot project. The EPA would provide technical guidance and other assistance to the public and private participants and would expedite the granting of permits and waivers as necessary for the transaction to proceed.
- o The Federal government will also specifically guarantee bond issues used exclusively by the private sector to privatize a wastewater treatment plant. This will enable these regulated public entities to ensure the cost-effective delivery of service for the public good.

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**Missouri River Public Water Supplies Association**  
**1991 Missouri River Monitoring Study**  
**September 19, 1991**

**Prepared by**  
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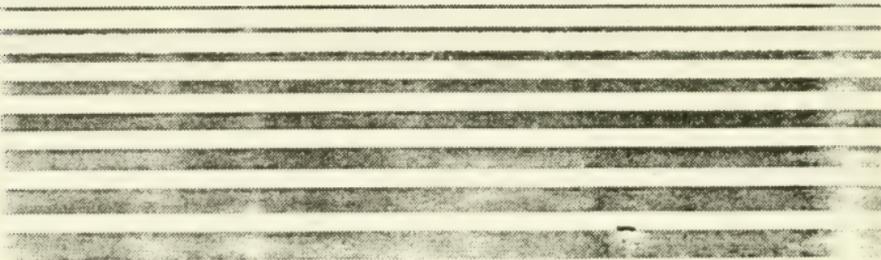


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The author wishes to acknowledge the various organizations and individuals who assisted in conducting this study.

Assistance from the Missouri River Public Water Supplies Association was invaluable. Members committed many hours of manpower to collect daily river samples and return them promptly to the SLCWC laboratory.

Dave Collins and the American Water Works Service Company Laboratory participated with us in split sample analysis, providing invaluable quality assurance for the data.

Dale McMurtrey and the Kansas City Water and Pollution Control Laboratory provided daily herbicide data to supplement this report, and relieve the sample/analysis burden at a single laboratory.

Jackie Cleveland and Sharon Woods, of St. Louis County Water Company, organized sending, receiving, preparing, and analyzing the hundreds of samples which made up this study.

Paul Keck

## 1991 Missouri River Monitoring Study

### Background

In April of 1990, the Missouri River Public Water Supplies Association announced the authorization of a one-year study to examine the occurrence of pesticides in the Missouri River.

A Contract Laboratory was retained to analyze quarterly samples from four locations on the Missouri, testing for the priority #1 and priority #2 contaminants (102 pesticides). After the first sampling and analysis, atrazine and alachlor were added to the list. Three sample rounds were completed in the study before the contract laboratory underwent a change in organization, which resulted in a loss of ability to continue the project. The 75% complete study showed no significant occurrence of pesticides.

Concurrent with the contract laboratory study, the individual utility laboratories at Kansas City and St. Louis collected and analyzed samples for atrazine and alachlor on a daily or near daily basis during the period of May through July, 1990. The results of the individual utility laboratory studies were dramatic. Unlike the quarterly grab sample contract laboratory project, these studies showed nearly continuous presence of atrazine during a 90-day period and highly variable day-to-day concentrations.

The inability to complete the Contract Laboratory Project, coupled with the striking difference in results obtained through daily sampling, prompted this present study which sought to formalize the approach to daily sampling throughout sub-regions of the basin during the Spring-Summer runoff period in 1991. At its outset, the study was termed "The 100-Day Study" in anticipation of the probable length of the runoff season. The study approach rejected the option of using Contract Laboratories, and instead used individual utility laboratories.

## Introduction

The promulgation of Primary Drinking Water Regulations establishing maximum contaminant levels (MCL's) for the phase II synthetic organic contaminants (SOC's), has caused concern among midwestern water suppliers about their ability to comply with these new limits. Many investigators have reported significant levels of several of these SOC's in studies conducted throughout the Midwest. Most of these studies report values obtained from random sampling and short term events yielding only "snapshots" at various locations over limited periods of time (1,2,3,4). Water suppliers must contend with regulations which suggest regulatory monitoring at times of likely contamination. "States are advised to examine sampling practices of systems to assure that periods of likely contamination are not avoided. This is especially true for surface water systems monitoring for pesticides after rainfall and/or application of pesticides (5)."

Herbicide concentrations have been shown to vary greatly in short periods of time (6). Obtaining an accurate evaluation of the herbicide levels contained in Midwest rivers therefore requires frequent sampling over an extended time period. A true understanding of herbicide migrations is needed to assess the risk of surpassing MCL's and to formulate remedial actions to prevent or reduce the potential of exceeding regulatory limits.

Environmental conditions related to runoff can impact contaminant levels, and should be reported jointly with herbicide levels to gain relevance when comparing various years of data or comparing various regions of data. Weather and hydrological conditions during the sampling period which represent above average, below average, or near average conditions affect whether or not the results are applicable in projecting reasonable future risks. Likewise, current farm practices during the sampling period must be addressed to determine the normalcy of herbicide distribution and usage for the study period. Inability to plant due to unsuitable field conditions would result in lower applications of herbicides and these lower applications would be reflected in the amount of herbicide available to be transported in runoff.

Collecting and reporting herbicide data without also reporting whether or not the samples used were collected under normal conditions does not provide a valid statistical model. Such data would not be applicable to all situations, and could lead to false conclusions. In a 1990 study of daily herbicide levels at St. Louis, it was noted that river flow data appeared to correlate spikes of high herbicide events with runoff events which happened hundreds of miles upstream (6). In order to better understand regional loadings and the migration characteristics of several widely used herbicides as they move downstream, this study was initiated by the Missouri River Public Water Supplies Association (MRPWSA) on behalf of its utility members.

## Study Protocol

### Sample Collection

The three month period of May, June, and July 1991 was selected as the study period in an attempt to encompass the spring/summer herbicide application season and period of highest runoff potential. Sample sites were selected from among the members of MRPWSA using three selection criteria. The first criteria was to choose sample sites so as to bracket the major tributaries feeding the lower Missouri River basin. The major individual tributaries and groups of tributaries selected were the Platte River in Nebraska, the Kansas River in Kansas, the Grand and Chariton Rivers in Missouri and the Osage and Gasconade Rivers in Missouri. This bracketing allowed determination of the tributaries' herbicide levels before and after their convergence with the main stem of the Missouri River.

The second selection criteria was to locate sample sites as far from the convergence of streams as possible to ensure complete mixing of the influent tributaries with the mainstream Missouri River.

Criteria three was to choose sites on the basis of their proximity to a U. S. Army Corps of Engineers flow gaging station. The daily flow data from the gaging stations was combined with the daily herbicide data to calculate the herbicide loads throughout the lower Missouri River basin during the three month study period from May 1 to July 29, 1991. Seven sample sites were estimated to be the maximum number manageable for time and analytical resources available to perform the analyses. Figure 1 on page 6 presents the sample site locations within the Missouri River Basin. An inventory, used in the selection of sample sites, of flow gaging stations, major tributaries, MRPWSA members, and MRPWSA members cities is presented in Table 1 on page 7.

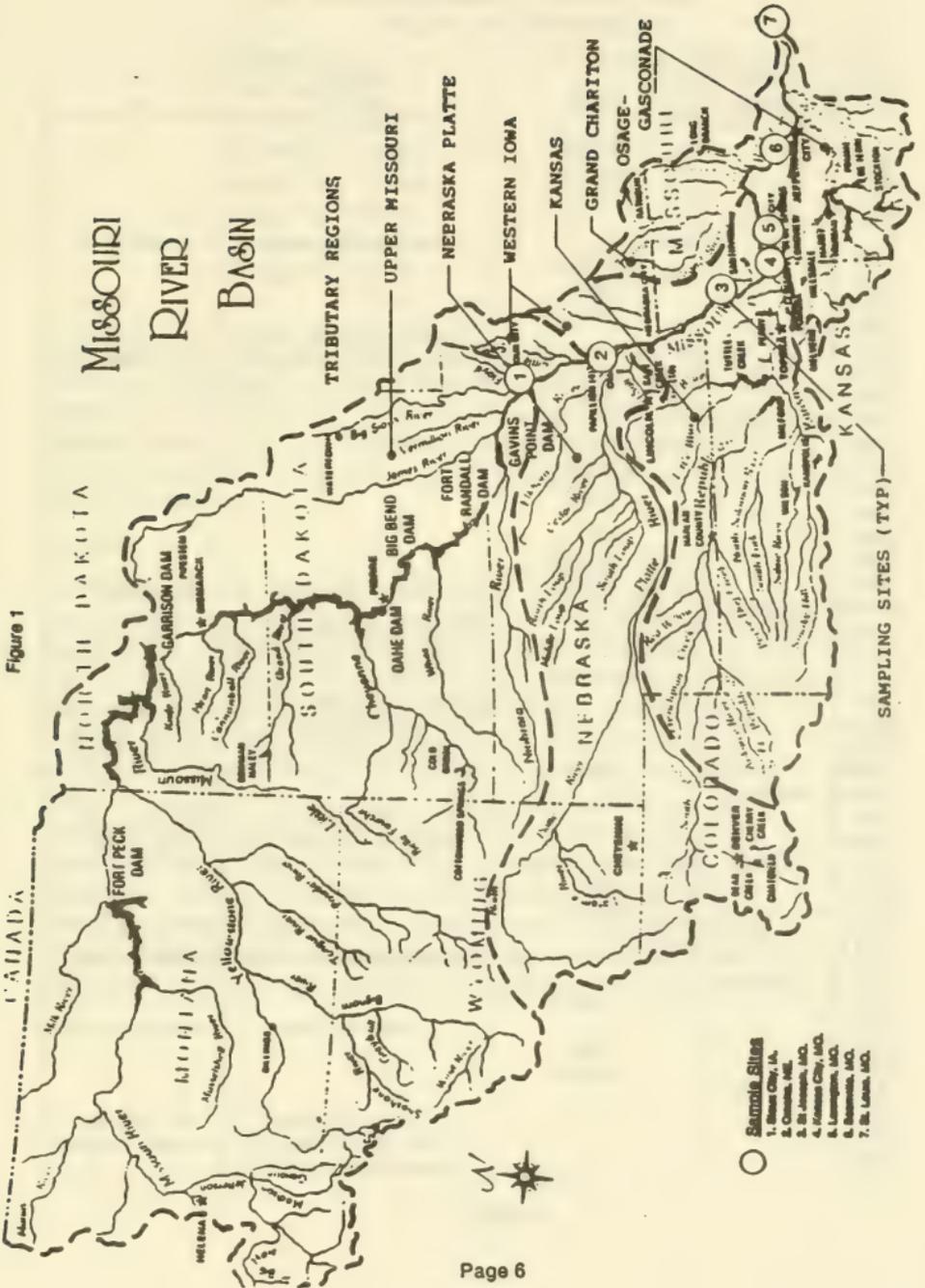


Figure 1

Table 1  
MISSOURI RIVER POINTS

River Mile	Gaging Station	Rivers	MRPWSA Member	City
734	Gavins Point	Vermillion		
731		Big Sioux		
723.3	Sioux City	Floyd	Sioux City Utilities Dept.	Sioux City, IA
669		Little Sioux		
664		Soldier		
651		Boyer		
626			Omaha Metropolitan Utilities	Omaha, NE
619			Council Bluffs Waterworks	Council Bluffs, IA
615.9	Omaha			
595		Platte		
562.6	Nebraska City			
542		Silver / E&W Nishnabotna		
527.8		Little Nemaha		
507.5		Tarkio		
498	Rulo			
495		Nemaha		
463		Nodaway		
452			Missouri American	St. Joseph, MO
448.2	St. Joseph			
423.5			City of Atchison Water Dept.	Atchison, KS
397.5			Leavenworth Water Dept.	Leavenworth, KS
392		Platte(MO.)		
380			Johnson County Water Dist. #1	Shawnee/Mission, KS
373.6			Board of Public Utilities	Kansas City, KS
370.5			Water & Pollution Control	Kansas City, MO
367.5		Kansas		
366.1	Kansas City			
316			U.S. Water	Lexington, MO
306.6			Higginsville Municipal Util.	Higginsville, MO
293.4	Waverly			
251.7		Grand		
227.9		Chariton		
226.3	Glasgow			
197.5			Boonville Bd. of Public Works	Boonville, MO
197.1	Boonville			
147.5		Cedar		
143			Capital City Water	Jefferson City, MO
129		Osage		
103.5		Gasconade		
97.9	Hermann			
37.0			St. Louis City Water	St. Louis, MO
36.3			St. Louis County Water(CCP)	St. Louis County, MO
20.8			St. Louis County Water(NCP)	

### 1991 Missouri River Daily Sampling Points

<u>Sample Site</u>	<u>Site Code</u>
Sioux City, Iowa	SX
Omaha, Nebraska	OM
St. Joseph, Missouri	SJ
Kansas City, Missouri	KC
Lexington, Missouri	LX
Boonville, Missouri	BN
Chesterfield, Missouri	SL

All samples were grab samples and no attempt was made at acquiring depth or width integrated samples. Samples were picked up daily and refrigerated pending weekly shipment to St. Louis County Water for analysis, except in the case of Kansas City where samples were picked up daily and analyzed in the Kansas City Missouri Water and Pollution Control Laboratory.

#### Analysis

The method used at St. Louis County Water Company was a modification of EPA Method 505 (see page 30). The major modifications were that a Nitrogen/Phosphorus Detector (NPD) was used in lieu of the stated Electron Capture Detector (ECD) and a megabore capillary column was used in place of a true capillary column. The use of the NPD provided greater sensitivity to the widely used nitrogen containing herbicides targeted in this study. The use of the mega bore capillary column halved gas chromatograph (GC) run times, which helped facilitate heavy sample loads, but in turn the use of the mega bore column caused the loss of ability to separate metolachlor and cyanazine. The use of 40 milliliter sample vials made collection, shipping, storage, and sample preparation much more manageable. This small sample size however, did increase the reporting levels as compared to the other laboratories, which used larger sample volumes.

With each sample batch, extracted standards were used to develop calibration curves. Every fifth GC run was an extracted check standard to assure detector stability. Herbicide levels were only reported out within the range of the calibration curve. The reporting level is the lowest standard in the standard curve for that sample batch which maintained response through out the GC sample run.

The herbicides that were targeted through the entire study were simazine, atrazine, and alachlor. The results of analysis represent the dissolved portion of the herbicides in the river samples. Earlier studies by Perieira (4) indicate that only small percentages (<0.5%) of atrazine, cyanazine, and metolachlor loadings are transported on solid surfaces and that these compounds are transported mainly in the dissolved phase. Alachlor soil adsorption and leaching capacity are rated in the same range as atrazine and metolachlor (7).

### Quality Control

The quality control measures used in this study included travel blanks, spikes, and split samples. Travel blanks were shipped out, returned and analyzed weekly with each sample kit for the participating sample sites. The travel blank analyses showed that no positive interference was introduced by sample transport or by the method procedure. One sample from each weekly sample kit was picked up in duplicate and spiked with known levels of targeted study compounds. The summary of the spike results are listed in the following table.

<u>Compound</u>	<u>Spike Level (ug/L)</u>	<u>Average % Recovery</u>	<u>Std. Dev. % Recovery</u>
Simazine	0.78	83%	43%
Atrazine	0.70	96%	38%
Alachlor	1.00	106%	22%

Approximately every other week, split samples were picked up one day during the daily sampling. A 1 liter split sample was picked up and sent directly to the American Water Works Service Company Laboratory (AWWSCL) in Belleville, Illinois. These samples were then analyzed using EPA method 507 and EPA method 508. The results are summarized on page 31. Additional samples from St. Louis were analyzed by the Ciba-Geigy Corporation using a method developed in their laboratory. These results are summarized on page 32. The Kansas City, Missouri Water and Pollution Control Laboratory used a solid phase extraction technique and a GC with a NPD to analyze their samples. Although the Kansas City Lab's method is capable of reporting lower concentration levels than the St. Louis County Lab method, Kansas City results have been truncated to achieve reporting consistency in the combined data set. The atrazine levels reported using the modified EPA 505 method are well corroborated by intra laboratory quality control measures and the inter laboratory studies. Alachlor and Simazine intra laboratory quality control was adequate, however, additional inter laboratory spikes would have been advantageous to compare levels above detection limits.

## Results and Discussion

### **Herbicide Concentrations**

Out of a possible 630 sample results, 589 successful sampling and analyses were conducted. Broken samples caused a 7% loss in the total sample set. Computation of averages uses the actual number of completed samples at each site. Of the 589 samplings, the following herbicides were measured above the reporting level: simazine was reported 2 times; alachlor was reported 104 times; and atrazine was reported 441 times. Herbicide concentrations were plotted for each day of the study period at each of the sample sites. The graphs are included as figures 2 thru 8 beginning on page 14. The fluctuations in concentration resulting from daily sampling is most pronounced for atrazine which occurred above the reporting level in 75% of the samples.

Alachlor occurs less frequently than atrazine, and predominantly during high runoff periods. The highest alachlor level was reported at Kansas City on May 6 at a level of 14.91 micrograms per liter. The next two consecutive days, alachlor at Kansas City was 5.33 and 2.13 micrograms per liter. Samples from downstream sites did not show these levels. Alachlor's half-life in soil is reported as 15 days compared to atrazine's 60 days (7). While these half-lives vary with soil conditions like pH, moisture, and microbial population, it is believed that the mass of alachlor available for transfer in runoff is depleted at a much greater rate than atrazine.

Comparing the graphs of daily atrazine levels from each sample site, from upstream to downstream, shows that the complexity of the downstream occurrence pattern increases with the addition of inflows from tributaries between the sampling sites. The upper river sampling sites, like Sioux City and Omaha, have relatively simple graphs compared to sites like St. Louis. Runoff events in the Nebraska-Iowa region caused high, sharp spikes of atrazine for these upper river sample sites. As these spikes progress downstream approximately 72 miles per day the peaks broaden and are joined by peaks from the intervening tributaries. At the mid river sites these peaks begin to meld together and the herbicide level graphs appear as a broad hump, with the upstream peak events projecting out on top of this broad base. In St. Louis, these protruding peaks become even less pronounced.

Though the highest daily atrazine concentrations were measured in the central region, higher daily averages occurred through out the lower river regions of the study area. The highest maximum daily atrazine levels were 10.65 micrograms per liter at St Joseph on May 18, and 11.10 micrograms per liter at Kansas City on May 28, 1991. The lowest maximum was recorded in St. Louis on June 10 at 6.71 micrograms per liter. Sioux City and Omaha averaged around 0.60 micrograms per liter for the 90-day study period, while the balance of the downstream sites averaged around two micrograms per liter. This data is summarized on page 13.

Boonville, Missouri derived the highest daily average of all the sample sites, over 3 micrograms per liter. The influx of the Lamine River, a small tributary, which flows into the Missouri River 5 miles upstream of the Boonville sample site may have introduced sample bias. Samples from the Lamine on three days in late July showed approximately 2 micrograms per liter of atrazine, while at the same time, the Missouri mainstream measured 0.60 ug/L. This indicated that the elevated levels found at the Boonville site could be due to contributions from this small, nearby, tributary. While this sample may represent the source water available for Boonville, this site was excluded as a representative point to measure mass atrazine levels on the Missouri River.

Atrazine was found above 3.0 ug/L 165 times, or in 28% of the 589 samples, and in 37% of the total atrazine occurrences. At Omaha, atrazine occurred above 3.0 ug/L only six times, or about 16% of the total reported Omaha occurrences. Below Omaha, atrazine occurred above 3.0 ug/L in 154 of 366 occurrences, or about 42% of the time. Alachlor exceeded 2 ug/L six times. Simazine never exceeded 1 ug/L.

#### Summary of Hydrological/Climatological Data

Runoff from rainfall is the major route of transport for herbicides from the fields to rivers and streams. To compare the hydrological conditions of this study period, the river flows recorded by the U. S. Army Corps of Engineers were used for each of the seven sites. The monthly data from 1967-1987 was averaged and used to describe "a historical average month". Flows at Hermann, Missouri were compared to historic averages to describe the total flow from the Missouri River. Tributary flows were derived for comparison to the historical average and contribution to the total at Hermann by subtracting adjacent gaging station flow.

## HERBICIDE CONCENTRATION SUMMARY

Atrazine

Location	Sample Days	Occurrences	Days > 3 ug/l	Average of Samples	Max
SX	84	37	5	0.73	8.36
OM	86	38	6	0.72	7.89
SJ	89	71	29	2.32	10.65
KC	89	56	30	2.15	11.10
LX	74	72	25	2.36	8.20
BN	83	83	40	3.22	7.44
SL	84	84	30	2.61	6.71

Alachlor

Location	Sample Days	Occurrences	Days > 2 ug/l	Average of Samples	Max
SX	84	2	0	0.03	1.64
OM	86	6	0	0.07	1.21
SJ	89	21	1	0.29	2.94
KC	89	22	4	0.47	14.91
LX	74	16	1	0.20	2.26
BN	83	19	0	0.21	1.49
SL	84	12	0	0.12	1.22

Simazine

Location	Sample Days	Occurrences	Days > 1 ug/l	Average of Samples	Max
SX	84	0	0	0	0
OM	86	0	0	0	0
SJ	89	2	0	0.01	0.48
KC	89	0	0	0	0
LX	74	0	0	0	0
BN	83	0	0	0	0
SL	84	0	0	0	0

# Herbicide Levels

Sioux City 1991

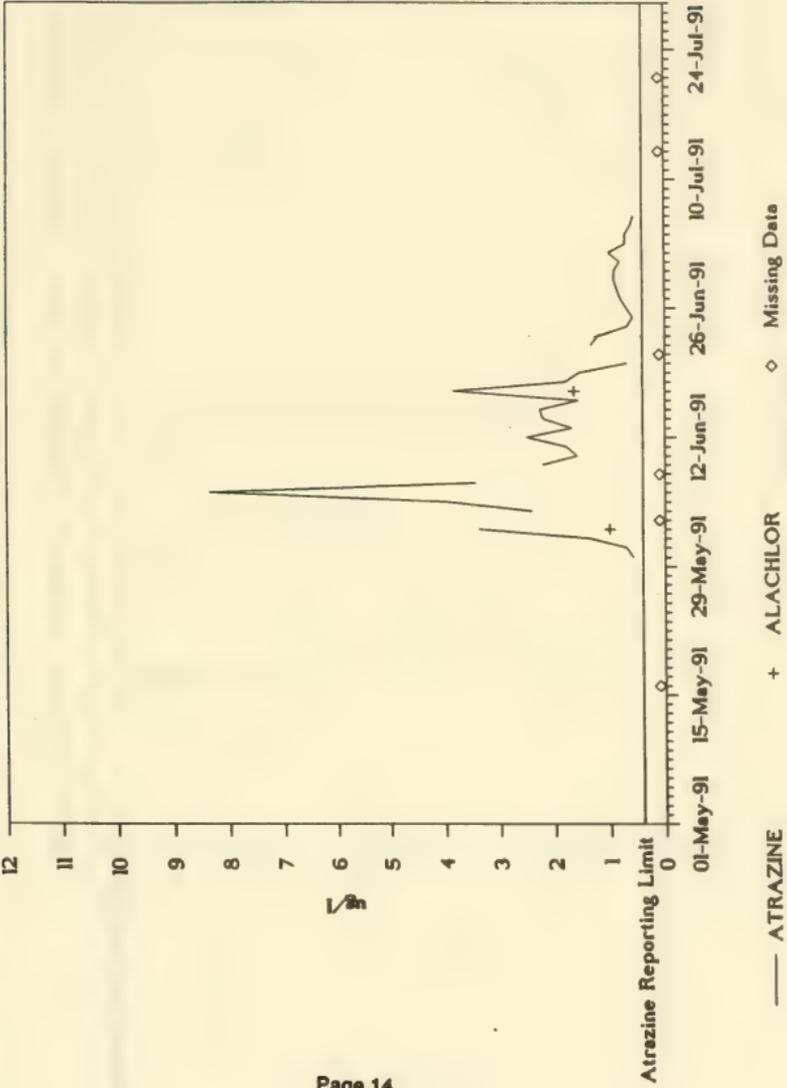


Figure 2

Herbicide Levels

Omaha 1991

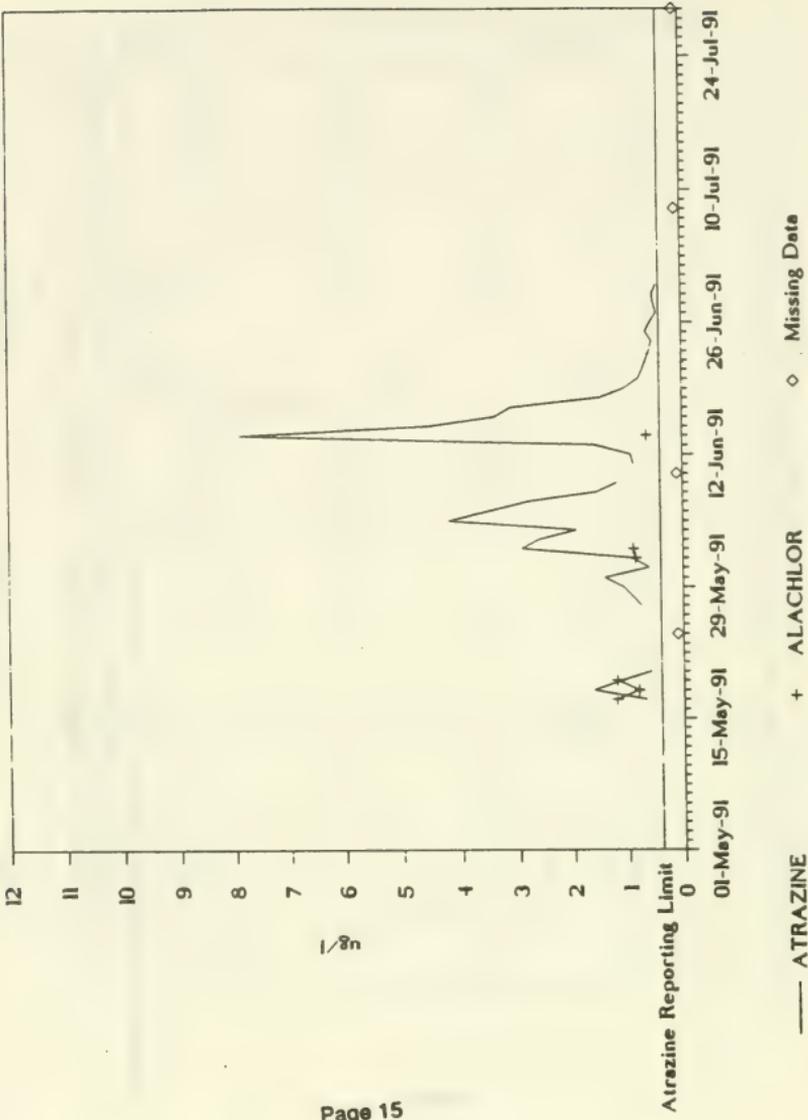


Figure 3

# Herbicide Levels

St. Joseph 1991

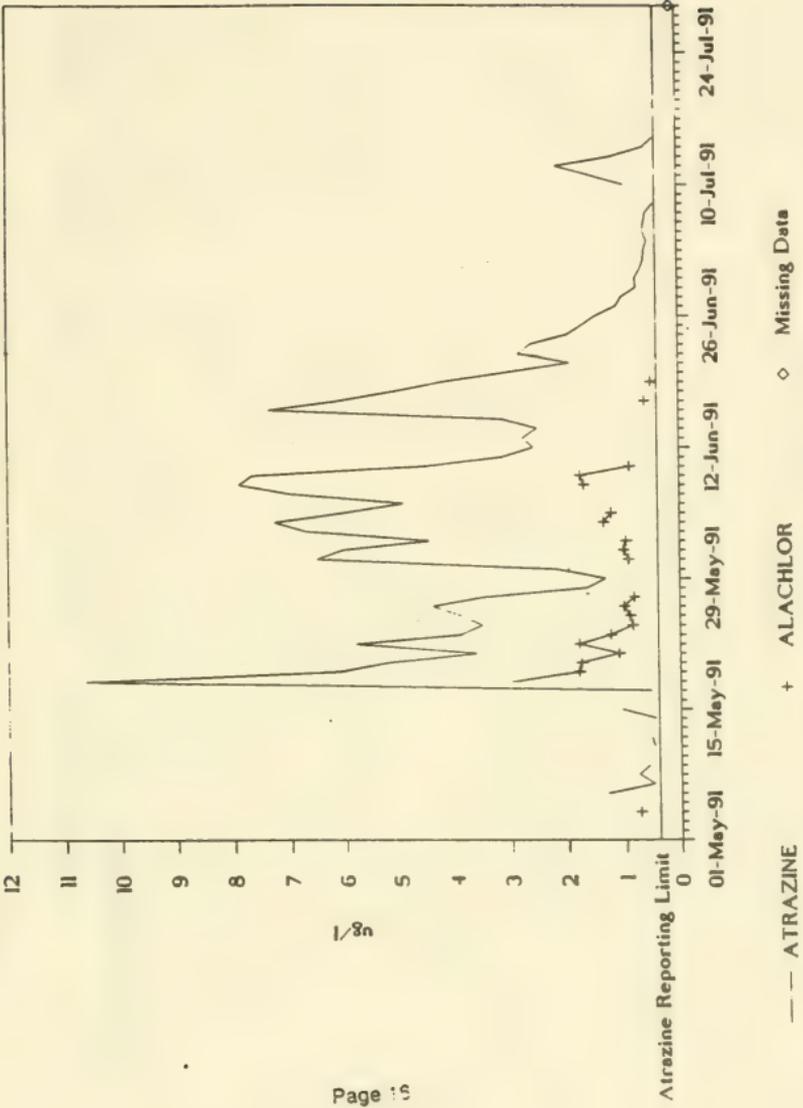


Figure 4

# Herbicide Levels Kansas City 1991

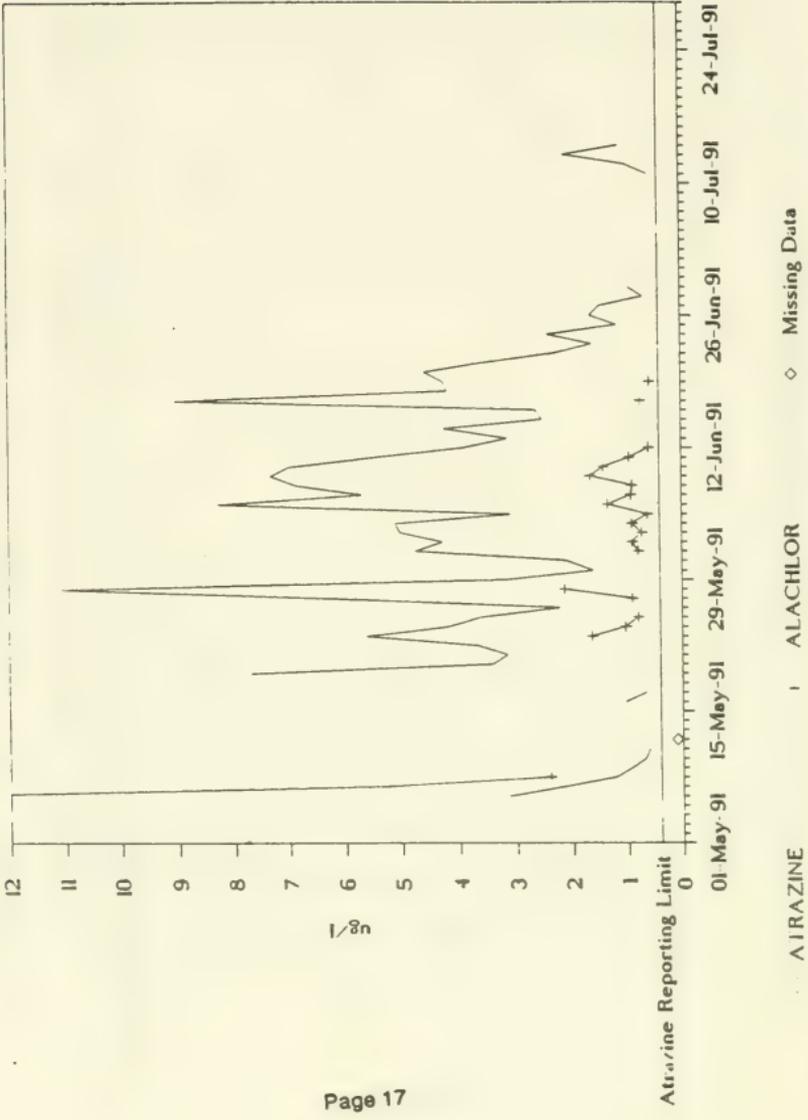


Figure 5

# Herbicide Levels

Lexington 1991

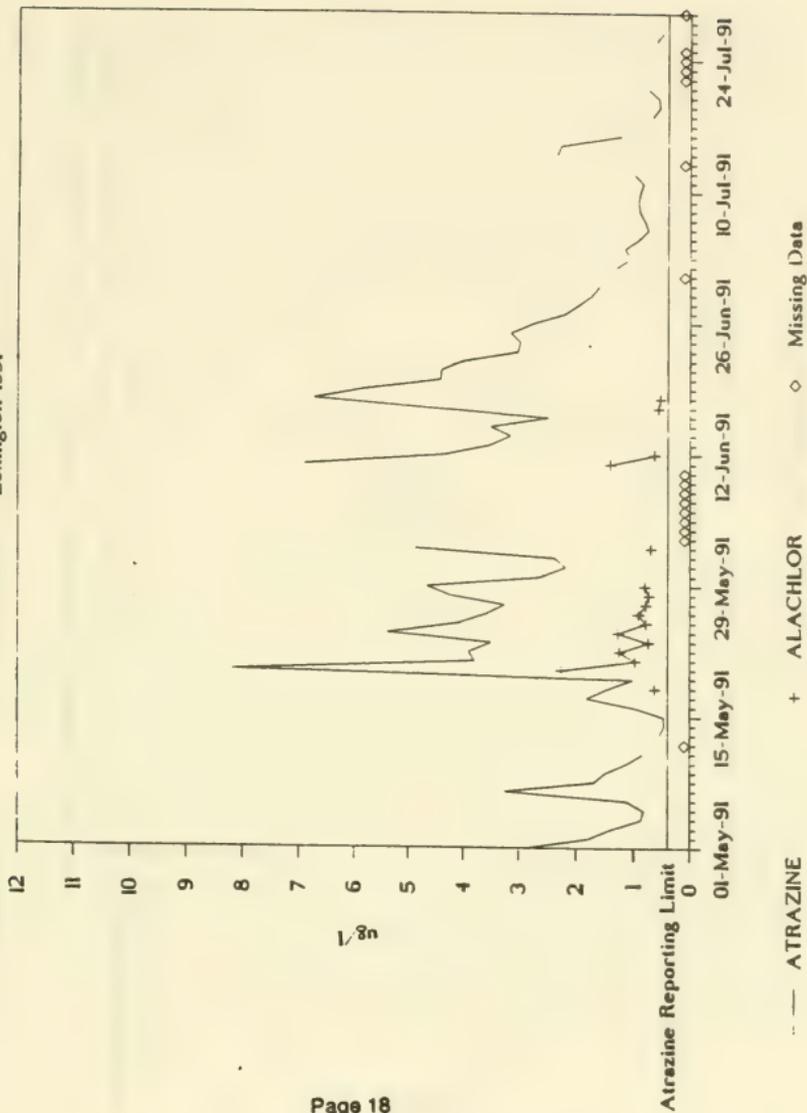


Figure 6

# Herbicide Levels

Boonville 1991

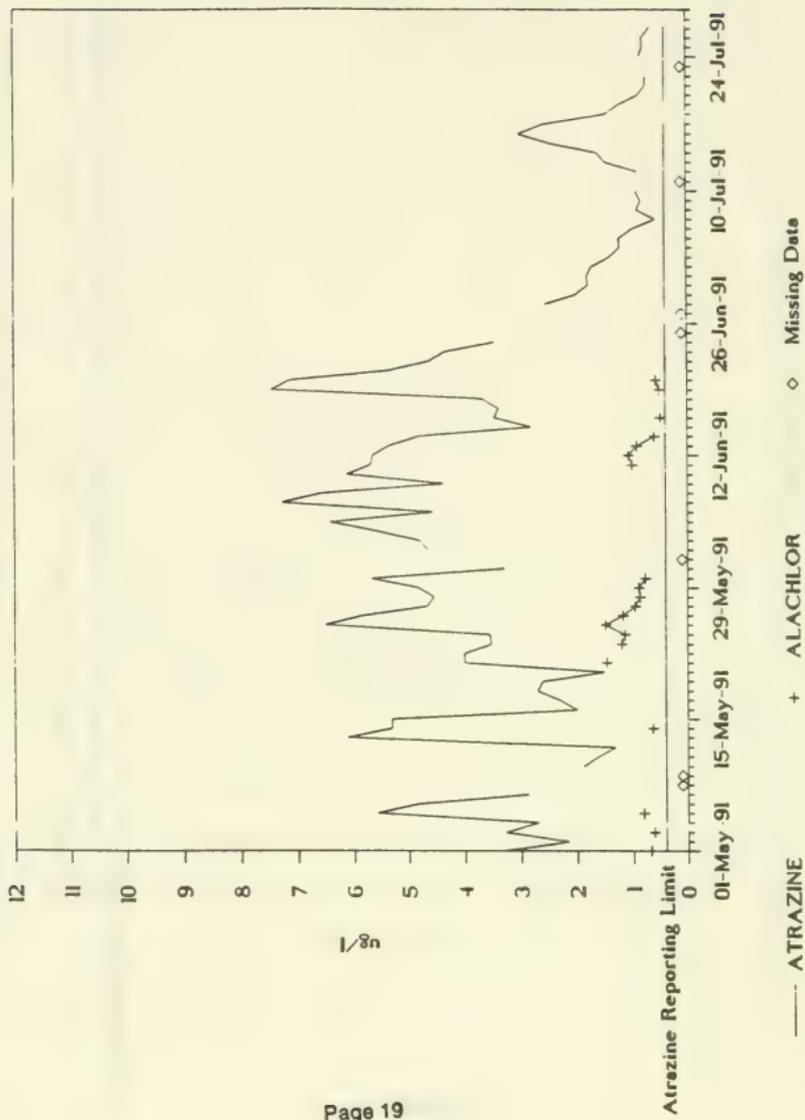


Figure 7

Herbicide Levels  
St. Louis 1991

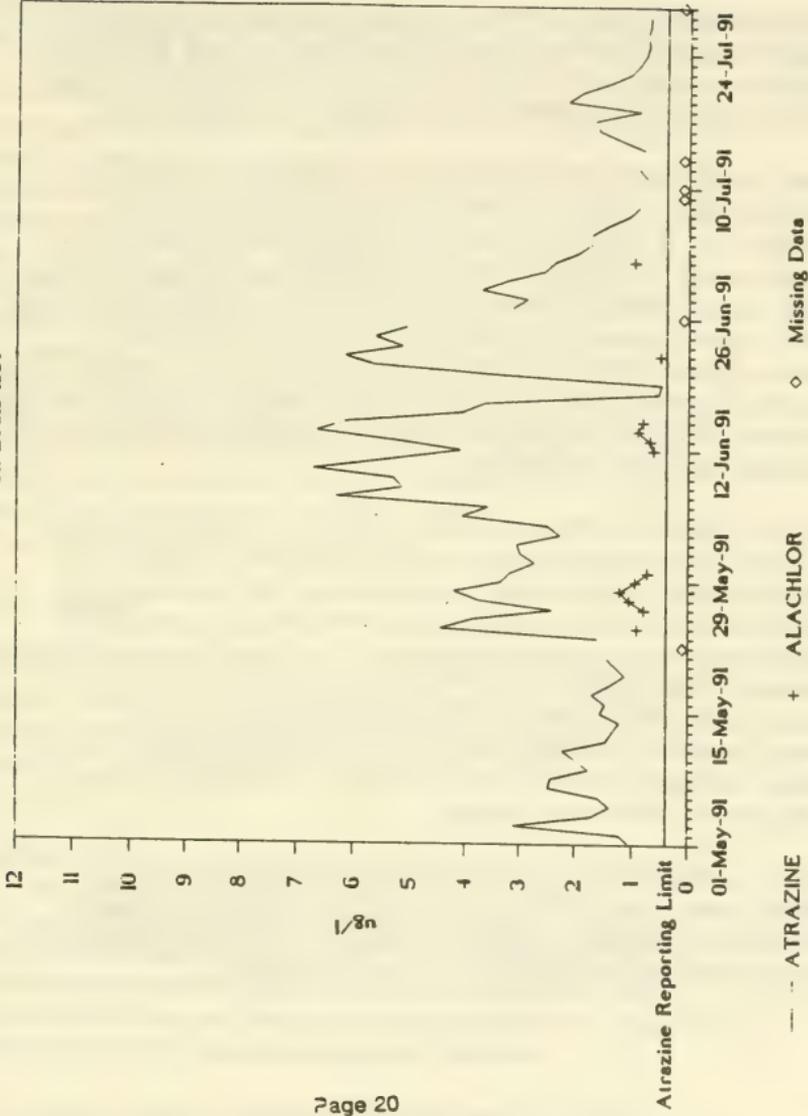


Figure 8

Runoff during the three month study can be considered below average when compared to 1967-1987 historical database. Average flows for the Missouri River were 96%, 73%, and 54% of historical monthly averages ('67-'87) for the months of May, June, and July, 1991, respectively.

In May, streamflow conditions in the upper half of the study area were near average; in the lower half, they were above average. Most of Missouri, Iowa, Kansas, and, Nebraska received 150% or greater than average rainfall (see page 33). An area encompassing the Iowa-Nebraska border received 100% of normal. Above Lexington, the Missouri River was flowing at 80% of average, but with substantial runoff in mid state Missouri regions, flows at Hermann were recouped to 96% of average. This recovery was brought about by a 210% above average contribution from the Grand and the Chariton Rivers and a 96% of average contribution from the Osage and the Gasconade Rivers.

In June, rainfall on the lower Missouri River basin was below normal and the upper half was slightly above normal. Large areas of Missouri and Kansas received 50% of normal rainfall (see page 34). Likewise, large areas of Iowa and Nebraska received only 75% of normal precipitation. The exception was an area encompassing the Iowa and Nebraska border which received rainfall 150% of normal. The upper half of the study area had average runoff, while the lower half contributed minimally to the Missouri River flow. Flows of the Missouri above Lexington were 94% of average, but fell to 73% of average at Hermann. Contributions below Lexington were only 44% of average.

In July, conditions were dry throughout the study area of the lower Missouri basin. Total flow of the Missouri River was 54% of average and runoff was marked by two small episodes, one from the Platte River area and one from the Grand and Chariton River region.

The Department of the Interior Geological Survey publishes streamflow and precipitation data in the publication "National Water Conditions" (8,9). The streamflow illustrations for May and June are on page 35. This 1991 monitoring study uses monthly averages to compare flow and flow contributions. The June Missouri River flows at Hermann were described as 73% of average and contributions between Lexington and Hermann were reported as 44% of average in the preceding paragraphs. The National Water Conditions reports and illustrates streamflow in Missouri in June as "normal". Even though streamflow falls below the average of the twenty years of historical data (1967-1987) used in this study, the flow does fall within what the U.S. Geological Survey defines as the "normal" range. "Normal" is defined as any value falling between the twenty fifth percentile and seventy fifth percentile of the historic sample from 1951 to 1980. A description of the flow for the Missouri River at Hermann during May would be "normal" and near average. A description of the flow for the Missouri River at Hermann during June would be "normal", but below average. The report on July was not available for inclusion herein.

### **Herbicide Loading**

To determine the regional loading of atrazine, a program was developed to calculate the pounds of atrazine passing each sampling site daily. U.S. Army Corps of Engineers daily flow data was used with daily herbicide data to calculate the mass of atrazine traversing each sample point.

The reports for May, June, and July are on pages 36-38. The total mass of Atrazine was calculated for each individual monitoring location, and regional contributions were determined by subtracting each total from the previous sample site. The estimated total mass of Atrazine discharged by the Missouri River during the 90-day study period was 106,143 pounds. May contributed 40,262 pounds, June 56,884 pounds, and July 8,997 pounds to account for this total.

In May, the major regional contributor of atrazine with 19,512 lbs. or 48% of the monthly total, appears to have been the region bordered

by Omaha, Nebraska and St. Joseph, Missouri. The Platte River and several medium size streams flow into the Missouri between these two sites. The second largest atrazine contribution in May originated from the region between Lexington, Missouri and St. Louis, Missouri with a 38% contribution, or 15,110 pounds. This region encompasses the Grand and Chariton Rivers in the mid section of Missouri. The upper Missouri study region, from Sioux city to Kansas City, experienced above normal precipitation. The flow was 75% of average and represented 48% of the total flow that month. This upper region contributed 58% of the atrazine load delivered to the mouth of the Missouri River.

In June the total atrazine load at St. Louis was 56,884 pounds. Approximately 91% of the atrazine load observed in St. Louis originated above Kansas City, and the flows at Kansas City reached 91% of the historical average. Again, the Platte and the other tributaries between Omaha and St. Joseph generated the greatest atrazine contribution at 59% (33,370 lbs). The water contribution for this region was 109% of the historical average. As mentioned in the hydrology/climatological section, June was very dry in the state of Missouri region. So even though 90% of the atrazine originated above Kansas City, so did 84% of the water.

July loadings were down dramatically to only 8,997 pounds, and this can be attributed to the extremely dry conditions throughout the lower Missouri basin. The total flow on the Missouri was 54% of average. The major contribution was caused by a runoff episode between Lexington and St. Louis contributing 4,418, or 49% of the July total. A summary of water contributions compared to historical water contributions compared to atrazine loading contributions can be found on page 39. Totals, and contributions for the entire study period and a discussion of the significance of the findings are presented in the Tributary Basin Analysis section.

## Tributary Basin Analysis

### Description of Regions

The objective of this study was to determine pesticide levels at various reaches of the Missouri for comparison to MCL's, and to identify the primary contributing river basins. The sample sites selected divide the Missouri River into the six primary tributary regions depicted in figure 1 on page 6.

- a) The upper Missouri Basin essentially contains the land area above Sioux City, Iowa, and makes up more than half of the entire basin. It includes all or a portion of Montana, Wyoming, North Dakota, South Dakota, Nebraska, Minnesota, and a portion of Canada. The flow contribution of this region to the Missouri is made up primarily of controlled releases from the main stem reservoir system at Gavins Point. A lesser contribution from South Dakota tributaries is included. Due to the volume of storage and control of releases from Gavins Point, the Lower Missouri Basin is virtually immune to rainfall and runoff events that occur above Gavins Point.
- b) The Little Sioux Basin and other tributaries drain a small portion of Western Iowa and Northwestern Missouri. This region is described as Western Iowa in this study. In comparison to other basins, the flow contribution is small.
- c) The Nebraska Platte drains central Nebraska, a portion of Wyoming, and Colorado. Unlike the upper basin, the Nebraska Platte discharge varies directly with rainfall events. In this study, flow from the Nebraska Platte was combined with runoff from Western Iowa between the gaging locations at Omaha and St. Joseph, Missouri.
- d) The Kansas River Basin includes the drainage from southern Nebraska, North Central Kansas, and eastern Colorado. It discharges to the Missouri just downstream of Kansas City. In this study, the impact of the Kansas River Basin is measured as the difference between the results of sampling at Kansas City and Lexington, Missouri.

e) The Grand-Chariton Basin drains north central Missouri and a portion of southern Iowa, discharging to the Missouri River between Lexington and Boonville, Missouri.

f) The Osage-Gasconade Basin drains the Central Missouri Region and a small portion of eastern Kansas. Unlike the broad plains of other tributary basins, the Osage-Gasconade includes a rocky, hilly region of Missouri. The upper Osage River flow is controlled by releases from the Bagnell Dam.

### Regional Contributions

Because of its overwhelming presence, when compared to the other pesticides studied, tributary contribution of atrazine has been analyzed for the entire runoff season encompassed by the 90-day study period.

For the entire study period the total atrazine load was 106,143 pounds at St. Louis, made up as follows:

#### Total Study Period

River Basin	Location	Cumulative Amount (lbs.)	% of Total
Upper Missouri	Sioux City, IA	9,059	8%
Western Iowa	Omaha, NE	15,714	15%
Platte & Western Iowa	St. Joseph, MO	71,613	67%
	Kansas City, MO	76,116	72%
Kansas	Lexington, MO	63,823	60%
Grand-Chariton	Boonville, MO	123,625	-
Osage-Gasconade	St. Louis, MO	106,143	100%

The tolerances of laboratory analysis and flow gaging must be considered when interpreting these data. Large incremental changes, such as the near doubling of atrazine from Lexington to St. Louis are significant. Small incremental differences between sites, such as the 6% difference between St. Joseph and Kansas City, or the 14% difference between Boonville and St. Louis, are within the overall study tolerance. The mass of atrazine at St. Louis is used as the basis for determining regional percent contribution.

Sub-basin contribution of atrazine is most notable from the Nebraska Platte - Western Iowa Basin, which accounted for over half of the total atrazine at St. Louis, and from the Grand-Chariton Basin which accounted for about 40% of the atrazine. Combined, these two regions contributed 90% of the atrazine runoff.

The largest land mass region, the upper Missouri Basin, contributed less than 10% of the total and the Kansas River Basin's contribution was virtually zero. Similarly, no atrazine was contributed by the Osage-Gasconade.

During the study period, the volume of flow from the Missouri River was 5,068 billion gallons, made up as follows:

Volume of Water

Location	Cumulative Amount (billion gallons)	% of total
Sioux City*	1571	31%
Omaha	2078	41%
St. Joseph	2889	57%
Kansas City	3294	65%
Lexington	3396	67%
Boonville	4359	86%
St. Louis	5068	100%

\*Includes 1,428 billion gallons from reservoir release at Gavins Point

The Upper Missouri Basin contributed just under one-third of the flow, and as mentioned above, only 8% of the atrazine. Controlled reservoir releases from Gavins Point contributed 1,428 billion gallons, or 91% of the Upper Missouri Basin volume. The Nebraska Platte and a portion of Western Iowa contributed 26% of the volume of water and 50% of the atrazine. The Grand-Chariton's 18% volume of flow contributed 40% of the atrazine. Ninety percent of the atrazine was contained in less than half of the tributary inflow.

### **Significance of Findings**

Of the flow contributing tributary basins, both the Upper Missouri Basin and the Osage-Gasconade basin show a diluting effect on atrazine levels. With all other conditions unchanged, a restriction of releases from the upper basin and/or a reduction in rainfall and runoff in the Osage-Gasconade would have resulted in increased concentrations of atrazine. The opposite is true for the primary atrazine contributing basins. Had no runoff occurred in the Nebraska Platte, Western Iowa, and/or Grand-Chariton, atrazine levels would have been lower in the Missouri River. Based on the heavy agricultural nature of the Kansas Basin, atrazine levels would likely have been higher, had precipitation and runoff occurred there.

The study shows the fallacy of using a predictive model, since the atrazine concentration is primarily a result of instances when and where rainfall/runoff occurred or failed to occur. Such circumstances allow only for post season analysis and not predictive modeling.

It is noteworthy to consider the calculated concentration of atrazine in the total volume discharged. Had the 106,143 pounds of atrazine been uniformly distributed in the 5,068 billion gallons, the resulting concentration would have been 2.5 ppb.

## Conclusions

1. Peak levels of atrazine exceeded 3.0 ug/L at every sample site on one or more days during the study. Peak levels of alachlor exceeded 2.0 ug/L at three of the seven locations on one or more days of the study. The average of occurrences for both compounds was less than the MCL equivalent for the 90-day period.
2. Atrazine was found prevalent enough to monitor this compound's migration throughout the lower Missouri River basin. Alachlor was detected primarily during peak runoff events. Virtually no significant amounts of simazine were detected.
3. The herbicide levels depended on the location of the sampling site, as compared to the influx of contamination source, roughly following basic river model ideals. The farther downstream from a contamination source, the lower and broader the peak became.
4. Tributary sources close to a sampling site may inadvertently boost herbicide level higher than might be expected in sampling the mainstream of the Missouri.
5. During the 90-day study period in which this data was collected only the month of May exhibited near average runoff. The balance of the study was below average compared to historical flow data. Precipitation data complements the average flow figures in describing flow conditions.
6. In the period of May, June, and July of 1991, approximately 53% of the atrazine, or 55,899 pounds were introduced from the tributaries between Omaha, Nebraska and St. Joseph, Missouri, originating from the Nebraska Platte and a portion of Western Iowa. An additional 40% originated below Boonville, contributed by the Grand-Chariton basin.
7. Herbicide concentrations in a large, complex river basin like the Missouri cannot be predicted. Runoff events are totally dependent on weather patterns which occur in the river's tributary basins.

**Appendix**

**Microextraction for Nitrogen – Phosphorus  
Pesticides and Herbicides**

1. Remove samples from storage and allow them to reach room temperature.
2. Add 35 mL of sample to 40 mL teflon-capped vial containing 6 grams of sodium chloride and shake by hand 20 seconds.
3. Centrifuge at 1600 RPM for 10 minutes if sample is turbid, transfer the 35 mL sample to a clean 40 mL vial.
4. Add 4  $\mu$ L of surrogate (1,3-Dimethyl-2-nitrobenzene, 18 ng/ $\mu$ L) to sample and, using a class A pipette, add 2.0 mL of pesticide grade hexane. Recap vial and shake vigorously by hand for 1 minute. Allow water and hexane phases to separate approximately 10 minutes.
5. Remove cap and carefully transfer 0.5 mL of the hexane layer into an autoinjector vial using a disposable glass pipette. Label vial with sample name, date, and time.
6. If sample will not be analyzed immediately, store at 4 degrees centigrade.

**GC Analysis**

Inject 3  $\mu$ L on .53 mm 1.5  $\mu$ m film DB-5 Column  
Oven Program 150 to 200 degrees C at 4 degrees/minute

## SPLIT SAMPLE ANALYSIS

	ATRAZINE			ALACHLOR		SIMAZINE	
	SLCWC M505	AWWSC 507	RPD	SLCWC M505	AWWSC 508	SLCWC M505	AWWSC 507
SJ 5/30	2.17	1.49	37%	<0.60	<10.0	<0.18	<0.06
SX 5/30	0.57	0.43	28%	<0.60	<10.0	<0.18	<0.06
LX 5/28	4.29	3.09	33%	<0.60	<10.0	<0.18	<0.06
OM 5/15	<0.44	<0.07		<0.60	<10.0	<0.18	<0.06
SX 5/16	LA	<0.07		LA	<10.0	LA	<0.06
BN 5/15	5.3	3.97	29%	<0.60	<10.0	<0.18	<0.06
LX 5/15	0.48	0.38	23%	<0.60	<10.0	<0.18	<0.06
SJ 5/15	1.07	0.64	50%	<0.60	<10.0	<0.18	<0.06
BN 7/17	2.56	1.05	84%	<0.50	<1.0	<0.39	<0.06
OM 6/26	0.55	0.42	27%	<0.50	<1.0	<0.39	<0.06
SX 6/27	0.69	0.76	10%	<0.50	<1.0	<0.39	<0.06
SJ 6/26	1.47	1.45	1%	<0.50	<1.0	<0.39	<0.06
LX 6/26	2.76	1.97	33%	<0.50	<1.0	<0.39	<0.06
OM 6/13	1.58	1.53	3%	<0.50	<1.0	<0.39	<0.06
LX 6/13	3.53	3.15	11%	<0.50	<1.0	<0.39	<0.06
Average			28%				

SLCWC - St. Louis County Water Company

AWWSC - American Water Works Service Company

LA - Laboratory accident

All results reported in ug/L.

RPD - Relative Percent Difference

## SPLIT SAMPLE ANALYSIS

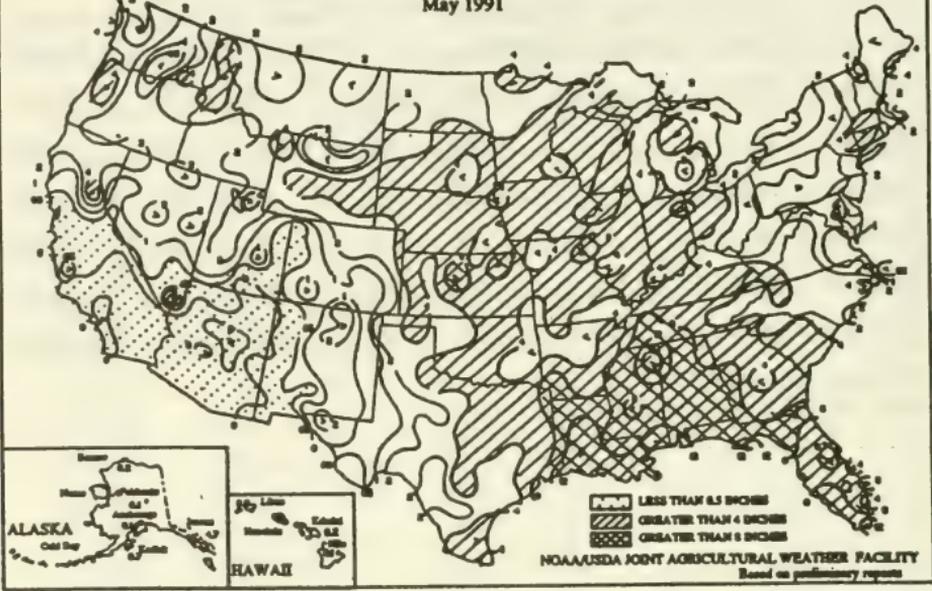
	Sample Date	Ciba Geigy Atrazine	SLCWC Atrazine	RPD	Ciba Geigy Metolachlor	Ciba Geigy Simazine	SLCWC Simazine
CCP Raw	5/24/91	5.7	4.48	24%	2.4	<0.1	<0.18
CCP Raw	5/25/91	4.8	3.85	18%	2.1	<0.1	<0.18
CCP Raw	5/26/91	3.8	2.41	40%	2.0	<0.1	<0.18
CCP Raw	6/08/91	4.8	5.15	7%	2.2	<0.1	<0.18
CCP Raw	7/24/91	0.72	0.77	7%	0.19	<0.1	<0.18
CCP Raw	7/26/91	0.82	0.76	8%	0.27	<0.1	<0.18

All results reported in ug/L.

RPD - Relative Percent Difference

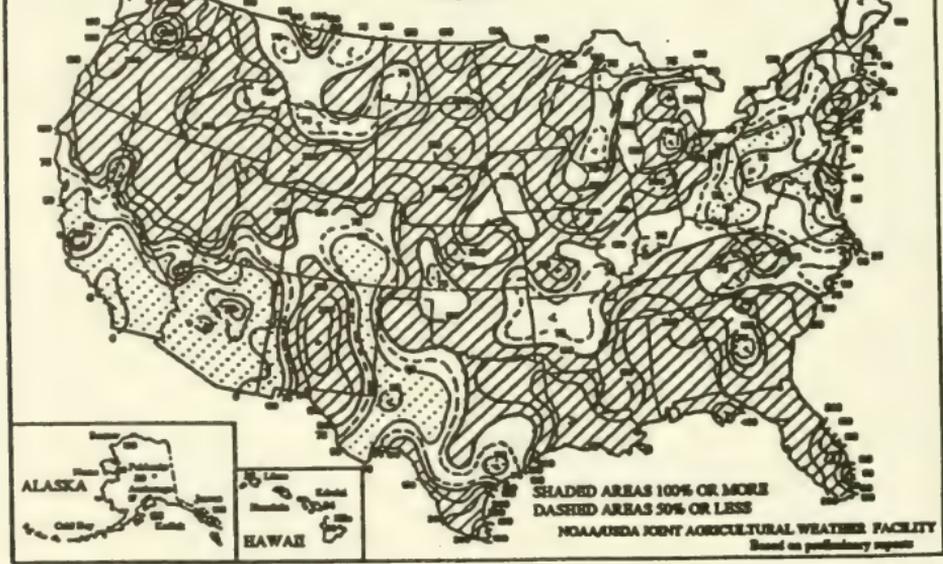
**TOTAL PRECIPITATION, INCHES**

May 1991

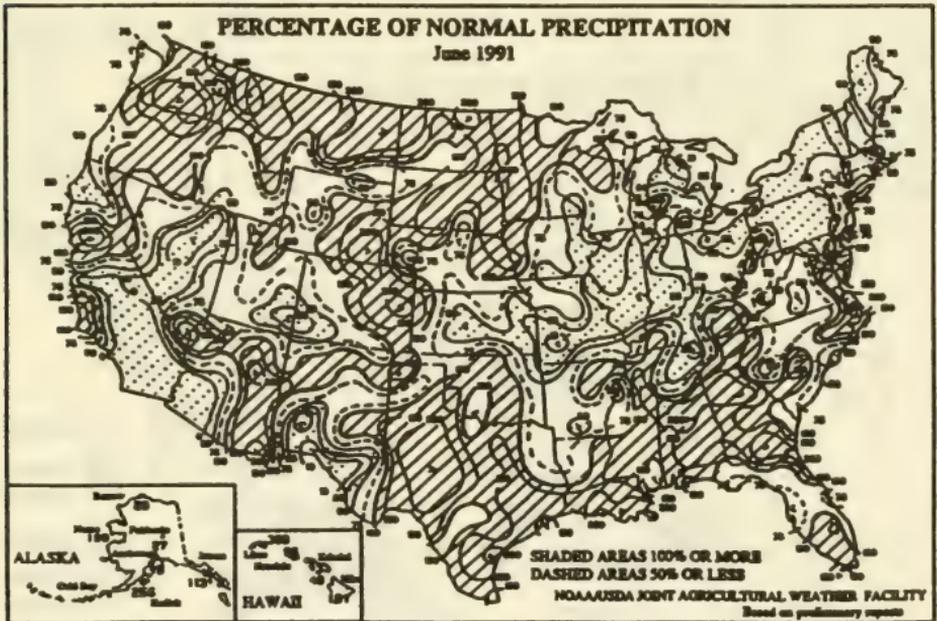
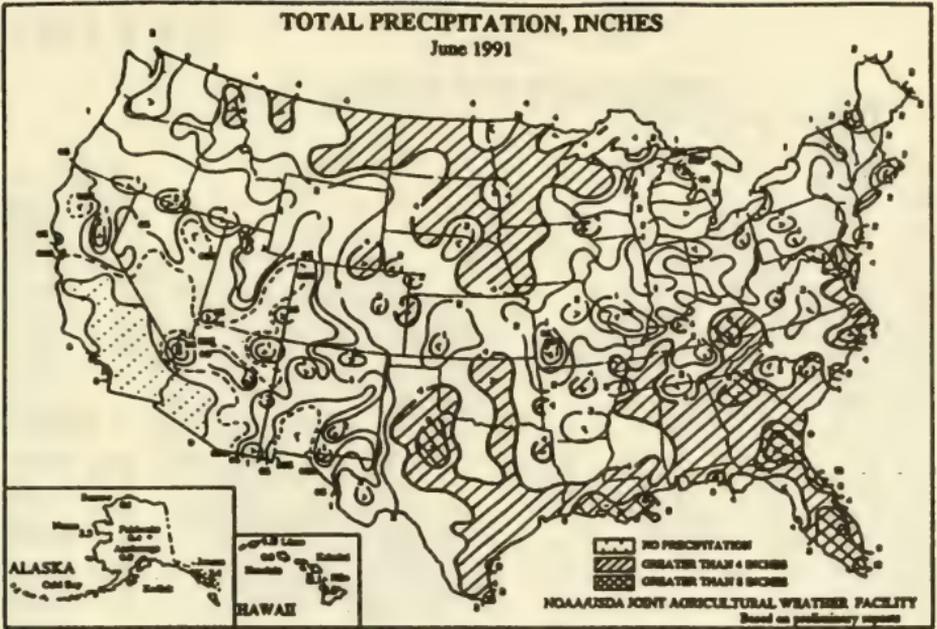


**PERCENTAGE OF NORMAL PRECIPITATION**

May 1991



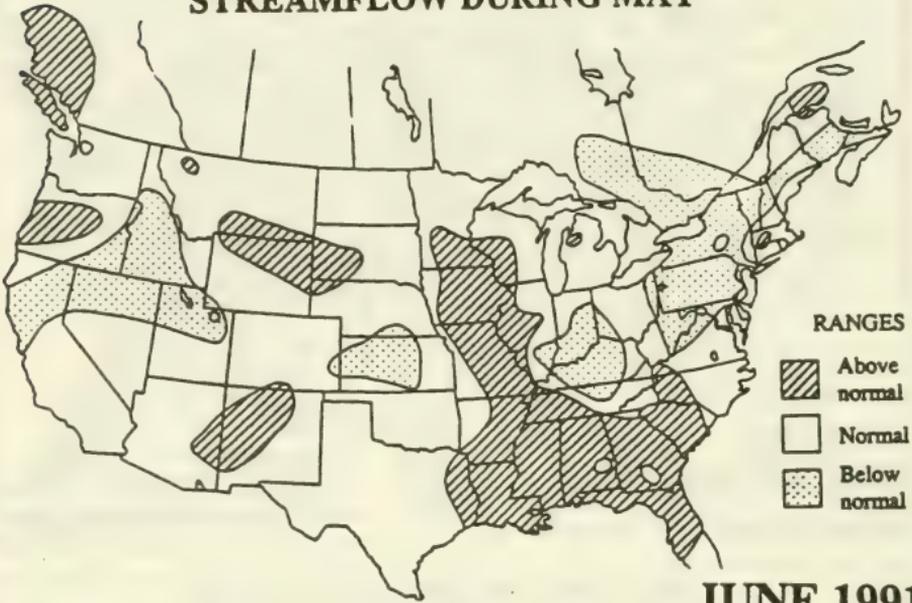
(From *Weekly Weather and Crop Bulletin* prepared and published by the NOAA/USDA Joint Agricultural Facility)



(From *Weekly Weather and Crop Bulletin* prepared and published by the NOAA/USDA Joint Agricultural Facility)

**MAY 1991**

**STREAMFLOW DURING MAY**



**JUNE 1991**

**STREAMFLOW DURING JUNE**



aken From "National Water Conditons" )

MISSOURI RIVER ATRAZINE LOADING  
DAILY MASS FLOW AND CUMULATIVE MASS  
May, 1991

DATE	POUNDS ATRAZINE DAILY							CUMULATIVE POUNDS ATRAZINE						
	SX	OM	SJ	KC	LX	BN	SL	SX	OM	SJ	KC	LX	BN	SL
05/01/91	0	0	158	0	997	2083	708	0	0	158	0	997	2083	708
05/02/91	0	0	0	336	535	1146	743	0	0	158	336	1532	3229	1451
05/03/91	0	0	0	0	380	1339	2047	0	0	158	336	1913	4568	3498
05/04/91	0	0	1440	0	227	918	972	0	0	1597	336	2140	5484	4470
05/05/91	0	0	0	0	222	3070	1133	0	0	1597	336	2361	8554	5602
05/06/91	0	0	328	1009	401	3655	1389	0	0	1926	1346	2762	12209	6992
05/07/91	0	0	125	735	1154	2121	2030	0	0	2051	2081	3916	14330	9022
05/08/91	0	0	195	411	613	1932	1932	0	0	2248	2491	4528	14330	10954
05/09/91	0	0	138	302	522	1358	1358	0	0	2384	2794	5050	14330	12311
05/10/91	0	0	0	193	354	1264	1442	0	0	2384	2987	5404	15594	13753
05/11/91	0	0	111	164	242	891	1371	0	0	2495	3150	5645	16485	15124
05/12/91	0	0	124	0	156	523	811	0	0	2620	3150	5645	17008	15935
05/13/91	0	0	0	0	156	2347	939	0	0	2620	3150	5802	19355	16874
05/14/91	0	0	113	0	127	2327	922	0	0	2733	3150	5929	21682	17797
05/15/91	80	0	241	0	136	2499	1112	80	0	2974	3150	6065	24181	18908
05/16/91	0	0	0	290	311	808	1047	80	0	2974	3440	6377	24989	19955
05/17/91	96	125	130	186	525	1059	1076	176	125	3105	3627	6902	26048	21031
05/18/91	0	368	3303	0	427	1054	750	176	493	6408	3627	7328	27103	21781
05/19/91	0	239	1697	2537	372	910	528	176	732	8105	6183	7700	28013	22309
05/20/91	0	106	1487	1054	2623	608	599	176	838	9591	7217	10323	28620	22908
05/21/91	0	0	981	991	1189	1409	637	176	838	10552	8208	11512	30029	23545
05/22/91	0	0	1802	1086	1210	1364	1364	176	838	12354	9294	12722	31393	23545
05/23/91	0	0	1132	1950	1086	1171	711	176	838	13486	11243	13807	32564	24256
05/24/91	0	0	908	1431	2051	1255	2074	176	838	14394	12674	15858	33819	26330
05/25/91	0	0	1046	1242	1707	3469	2409	176	838	15440	13918	17565	37288	28739
05/26/91	0	0	1298	785	1369	4025	1638	176	838	16738	14701	18934	41313	30377
05/27/91	0	150	912	2207	1276	2846	2286	176	989	17650	16908	20210	44160	32663
05/28/91	0	164	425	3742	1569	2498	2384	176	1153	18078	20650	21779	46658	35047
05/29/91	0	204	377	1105	1866	2283	2000	176	1357	18453	21755	23445	48941	37047
05/30/91	77	285	561	552	940	2306	1778	253	1642	19014	22307	24385	51247	38825
05/31/91	101	107	2247	702	787	1300	1437	354	1749	21281	23009	25152	52547	40262

STATIONS	TRIBUTARIES	STATIONS	TRIBUTARIES
Gavins Point	James River Vermillion River Big Sioux River Floyd River	Rulo	Nebraska River Mudaway River
Sioux City	Little Sioux River Soldier River Boyer River	St. Joseph	Platte River(MO.) Kansas River
Omaha	Platte River -Louisville(Platte)	Kansas City	Grand River Chariton River
Nebraska City	Silver/E+W Mishnabotna Rivers Little Nemaha River Tarkio River	Waverly	
		Booneville	Cedar Creek Osage River Gasconade River -Jerome(Gasconade)
		Hermann	

MISSOURI RIVER ATRAZINE LOADING  
DAILY MASS FLOW AND CUMULATIVE MASS  
June , 1991

## POUNDS ATRAZINE DAILY

## CUMULATIVE POUNDS ATRAZINE

DATE	SX	OM	SJ	KC	LX	BN	SL	SX	OM	SJ	KC	LX	BN	SL
06/01/91	212	163	1818	1983	931	0	1493	212	163	1818	1983	931	0	1493
06/02/91	519	713	1205	1525	2002	2659	1892	731	876	3023	3508	2933	2659	3385
06/03/91		812	2995	1694		3113	1469	731	1487	6018	5202	2933	5772	4855
06/04/91	400	366	2906	2476		2896	1464	1132	1854	8924	7679	2933	8668	6319
06/05/91	591	979	2101	1326		3601	2437	1723	2833	11025	9004	2933	12270	8756
06/06/91	1172	917	1743	3350		2509	2066	2895	3750	12768	12354	2933	14779	10822
06/07/91	454	599	3770	2847		3357	3247	3349	4348	16538	15202	2933	18135	14069
06/08/91		283	3770	3948		3128	2620	3349	4632	20308	19149	2933	21263	16688
06/09/91	305	221	2731	3584		2781	3196	3654	4853	23040	22733	2933	24045	19884
06/10/91	234		1414	2917		3395	3619	3889	4853	24453	25651	2933	27440	23504
06/11/91	288	155	979	2241	2766	2590	2610	4177	5009	25432	27891	5698	30030	26113
06/12/91	340	189	786	1538	1730	2344	1816	4516	5197	26218	29429	7428	32374	27929
06/13/91	247	272	794	1229	1413	2189	2284	4764	5469	27012	30658	8841	34564	30213
06/14/91	357	2694	890	1515	1148	1965	2884	5121	8163	27702	32173	9989	38529	33097
06/15/91	347	1680	1592	822	1215	1053	2542	5469	9843	29294	32995	11205	37582	35639
06/16/91	236	1479	4651	1674	1081	1224	1577	5705	11322	33946	34669	12286	38807	37216
06/17/91	604	916	3592	5748	3289	1909	2017	6309	12239	37538	40417	15576	40715	39232
06/18/91	239	350	2480	2390	4356	2752	373	6549	12588	39998	42807	19932	43487	39605
06/19/91	222	205	1824	1930	3046	4938	293	6771	12793	41821	44737	22978	48403	39899
06/20/91	106	144	1005	1780	1852	3751	1764	6877	12937	42627	46497	24830	52154	41663
06/21/91		144	550	1228	1625	2281	2511	6877	13081	43176	47725	26455	54435	44174
06/22/91	207	114	922	720	1331	1716	2441	7084	13195	44098	48445	27786	56151	46615
06/23/91	191	104	957	643	990	1494	1894	7275	13300	45056	49088	28777	57645	48509
06/24/91	91	109	562	898	1238	1201	2073	7366	13408	45618	49986	30014	58845	50582
06/25/91	83	112	477	370	1092		2126	7449	13520	46095	50356	31107	58845	52708
06/26/91	111	94	389	509	872	1021		7560	13614	46484	50864	31979	59866	52708
06/27/91	108	90	261	421	679		1086	7667	13704	46745	51285	32658	59866	53794
06/28/91	123	88	240	175	548	800	947	7791	13791	46985	51460	33206	60666	54742
06/29/91	143	88	184	252	454	587	1180	7934	13879	47169	51712	33660	61253	55921
06/30/91	121	86	166	0	432	494	963	8055	13965	47335	51712	34082	61747	56884

<b>STATIONS</b>	<b>TRIBUTARIES</b>
Gavins Point	James River
	Vermillion River
	Big Sioux River
	Floyd River
Sioux City	Little Sioux River
	Soldier River
	Boyer River
Omaha	Platte River -Louisville(Platte)
Nebraska City	Silver/E+W Mishnabotna Rivers
	Little Nemaha River
	Tarkio River

<b>STATIONS</b>	<b>TRIBUTARIES</b>
Rule	Nemaha River
	Madaway River
St. Joseph	Platte River(MO.)
	Kansas River
Kansas City	Grand River
Waverly	Chariton River
Glasgow	Cedar Creek
Booneville	Osage River
	Gasconade River -Jerome(Gasconade)
Hermann	

MISSOURI RIVER ATRAZINE LOADING  
DAILY MASS FLOW AND CUMULATIVE MASS  
July, 1991

DATE	POUNDS ATRAZINE DAILY							CUMULATIVE POUNDS ATRAZINE						
	SX	OM	SJ	KC	LX	BN	SL	SX	OM	SJ	KC	LX	BN	SL
07/01/91	126	0	146	0		502	758	126	0	146	0	0	502	758
07/02/91	157	0	140	0	308	463	736	283	0	286	0	308	965	1494
07/03/91	95	0	128	109	252	385	579	378	0	414	109	560	1331	2073
07/04/91	105	0	117	0	271	309	469	483	0	532	108	831	1639	2543
07/05/91	92	0	144	0	199	318	468	575	0	678	108	1030	1957	3011
07/06/91	74	0	120	0	173	238	369	650	0	796	108	1203	2196	3380
07/07/91	0	0	113	0	187	139	270	650	0	908	109	1390	2334	3650
07/08/91	0		88	0	180	226	239	650	0	998	109	1570	2561	3888
07/09/91	0	0	0	0	189	191		650	0	996	108	1759	2752	3888
07/10/91	0	0	251	0	183	213		650	0	1247	109	1942	2965	3888
07/11/91	0	0	457	159	163		201	650	0	1704	268	2105	2965	4089
07/12/91	0	0	521	307	303	265	264	650	0	2224	575	2407	3230	4354
07/13/91	0	0	255	554		777		650	0	2479	1129	2407	4007	4354
07/14/91	0	0	133	266	606	739	378	650	0	2612	1395	3013	4746	4732
07/15/91	0	0	88	0	544	908	471	650	0	2700	1395	3557	5654	5203
07/16/91	0	0	0	0	284	924	528	650	0	2700	1395	3841	6578	5730
07/17/91	0	0	0	0	0	687	491	650	0	2700	1395	3841	7275	6221
07/18/91	0	0	78	0	144	357	234	650	0	2778	1395	3985	7632	6455
07/19/91	0	0	75	0	116	282	532	650	0	2853	1395	4101	7914	6988
07/20/91	0	0	0	0	111	199	455	650	0	2853	1395	4212	8113	7442
07/21/91	0	0	0	0	150	161	325	650	0	2853	1395	4362	8274	7767
07/22/91	0	0	0	0		158	222	650	0	2853	1395	4362	8432	7989
07/23/91	0	0	0	0			197	650	0	2853	1395	4362	8432	8186
07/24/91	0	0	0	0		176	175	650	0	2853	1395	4362	8608	8361
07/25/91	0	0	0	0		160	155	650	0	2853	1395	4362	8768	8515
07/26/91	0	0	0	0	124	170	164	650	0	2853	1395	4486	8937	8680
07/27/91	0	0	0	0	92	140	162	650	0	2853	1395	4579	9077	8841
07/28/91	0	0	0	0	0	133	156	650	0	2853	1395	4579	9210	8997
07/29/91	0			0		121		650	0	2853	1395	4579	9331	8997
07/30/91														
07/31/91														

STATIONS	TRIBUTARIES	STATIONS	TRIBUTARIES
Gavins Point	James River Vermillion River	Rule	Nebraska River Nodaway River
Sioux City	Big Sioux River Floyd River	St. Joseph	Platte River(MO.) Kansas River
Omaha	Little Sioux River Soldier River Boyer River	Kansas City Waverly	Grand River Chariton River
Nebraska City	Platte River -Louisville(Platte)	Glasgow Booneville	Cedar Creek Osage River Gasconade River -Jerome(Gasconade)
	Silver/E-W Mishnabotna Rivers Little Nemaha River Tarkio River	Harwann	

## Summary of Flow Data and Atrazine Contributions

## MAY

'67 - '87 Avg. May Flow	120,715 CFS
Average Flow at Hermann	117,032 CFS - 97% of '67 - '87 avg.
Pounds Atrazine Discharged	40,262 lbs

	Percent Contribution Between Adjacent Sample Sites						
	SX	SX-OM	OM-SJ	SJ-KC	KC-LX	LX-BN	BN-SL
May '91 Contribution mpared to '87 - '87 Avg. Contribution	74%	163%	64%	63%	116%	210%	96%
'67 - '87% Contribution to Total '67 - '87 Flow at St. Louis	29%	4%	17%	13%	2%	12%	22%
May % Contribution to Total May Flow at St. Louis	29%		22%			49%	
% Contribution Atrazine to Total at St. Louis	5%		58%			38%	

## JUNE

'67 - '87 Avg. June Flow	123,639 CFS
Average Flow at Hermann	89,947 CFS - 73% of '67 - '87 avg.
Pounds Atrazine Discharged	56,884 lbs

	Percent Contribution Between Adjacent Sample Sites						
	SX	SX-OM	OM-SJ	SJ-KC	KC-LX	LX-BN	BN-SL
June '91 Contribution mpared to '67 - '87 Avg. Contribution	73%	219%	109%	64%	57%	69%	19%
'67 - '87% Contribution to Total '67 - '87 Flow at St. Louis	30%	5%	17%	14%	2%	10%	21%
June % Contribution to Total June Flow at St. Louis	46%		40%			15%	
% Contribution Atrazine to Total at St. Louis	20%		66%			10%	

## JULY

'67 - '87 Avg. July Flow	97,091 CFS
Average Flow at Hermann	52,280 CFS - 54% of '67 - '87 avg.
Pounds Atrazine Discharged	8,997 lbs

	Percent Contribution Between Adjacent Sample Sites						
	SX	SX-OM	OM-SJ	SJ-KC	KC-LX	LX-BN	BN-SL
July '91 Contribution mpared to '87 - '87 Avg. Contribution	68%	111%	50%	17%	28%	78%	27%
'67 - '87% Contribution to Total '67 - '87 Flow at St. Louis	40%	4%	14%	12%	2%	10%	18%
July % Contribution to Total July Flow at St. Louis	59%		18%			23%	
% Contribution Atrazine to Total at St. Louis	8%	18%			25%	50%	

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**DISTRIBUTION OF SELECTED HERBICIDES AND NITRATE IN  
THE MISSISSIPPI RIVER AND ITS MAJOR TRIBUTARIES,  
APRIL THROUGH JUNE 1991**

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U.S. GEOLOGICAL SURVEY

Water-Resources Investigations Report 91-4163

U.S. DEPARTMENT OF THE INTERIOR

MANUEL LUJAN, JR., Secretary

U.S. GEOLOGICAL SURVEY

Dallas L. Peck, Director

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DISTRIBUTION OF SELECTED HERBICIDES AND NITRATE IN  
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U.S. GEOLOGICAL SURVEY

Water-Resources Investigations Report 91-4163

Denver, Colorado

1991

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## CONVERSION FACTORS AND ABBREVIATED WATER-QUALITY UNITS

<u>Multiply</u>	<u>By</u>	<u>To obtain</u>
cubic foot per second (ft <sup>3</sup> /s)	$2.832 \times 10^{-2}$	cubic meter per second
foot (ft)	$3.048 \times 10^{-1}$	meter
liter (L)	$2.642 \times 10^{-1}$	gallon
microliter ( $\mu$ L)	$2.642 \times 10^{-7}$	gallon
micrometer ( $\mu$ m)	$3.937 \times 10^{-5}$	inch
mile	1.609	kilometer
millimeter (mm)	$3.937 \times 10^{-2}$	inch
pound	$4.536 \times 10^{-1}$	kilogram
square mile (mi <sup>2</sup> )	2.590	square kilometer

To convert degrees Celsius ( $^{\circ}$ C) to Fahrenheit ( $^{\circ}$ F), use the following formula:  
 $^{\circ}$ F =  $9/5(^{\circ}$ C)+32.

Micrograms per liter ( $\mu$ g/L) is a unit expressing the concentration of a chemical constituent in solution as weight (micrograms) of solute per unit volume (liter) of water.

Milligrams per liter (mg/L) is a unit expressing the concentration of a chemical constituent in solution as weight (milligrams) of solute per unit volume (liter) of water; 1 mg/L equals 1,000 micrograms per liter ( $\mu$ g/L).

Use of trade names in this report is for identification purposes only and does not constitute endorsement by the U.S. Geological Survey.

DISTRIBUTION OF SELECTED HERBICIDES AND  
NITRATE IN THE MISSISSIPPI RIVER AND ITS MAJOR  
TRIBUTARIES, APRIL THROUGH JUNE 1991

By D.A. Goolsby, R.C. Coupe, and D.J. Markovchick

ABSTRACT

One or more herbicides were detected in each of 146 water samples collected from 8 sites on the Mississippi River and its major tributaries in April, May, and June 1991. Atrazine was detected in every sample; median concentrations of atrazine ranged from 0.29 micrograms per liter in the Mississippi River at Clinton, Iowa, to 3.2 micrograms per liter in the White River at Hazelton, Ind. Concentrations of herbicides increased in early May in response to rainfall that occurred after herbicide application, and then began to decrease in early- to mid-June. The concentration of atrazine exceeded the maximum contaminant level for drinking water in the Missouri River at Hermann, Mo., throughout the month of June, and at two sites on the Mississippi River during parts of May and June. Alachlor exceeded the maximum contaminant level in a few samples collected from the smaller tributaries. Cyanazine, metolachlor, and simazine were also detected in many samples but concentrations did not exceed maximum contaminant levels or health advisory levels. The largest concentrations of nitrate-nitrogen were measured in the Illinois River and parts of the upper Mississippi River. None of the nitrate-nitrogen concentrations measured exceeded the maximum contaminant level.

Results from this study are consistent with the concept of an annual cycle of herbicide application followed by a series of flushing events during which herbicides are transported to streams by rainfall in late spring and summer. Herbicide concentrations decrease later in the year due to chemical and biological degradation, transport into streams, and other processes. During the flushing events, concentrations of some herbicides may exceed health based limits in streams throughout the upper midwestern United States, regardless of size, including the Mississippi River.

INTRODUCTION

More than 294 million pounds of herbicides are applied annually to cropland and pasture land in the midwestern United States (Gianessi and Puffer, 1990). Most of this amount is used to control weeds in the production of corn, soybeans, and sorghum. Regional-scale studies conducted by the U.S. Geological Survey during 1989 and 1990 (Thurman and others, 1991) indicate that these compounds are transported into streams each year during late spring and early summer, and ultimately discharge to the Ohio, Missouri, and Mississippi Rivers and the Gulf of Mexico. About 18 million people rely on the Ohio, Missouri, Mississippi, and numerous smaller rivers in the central United States for drinking-water supplies. At certain times of the year, herbicides and other agricultural chemicals, such as nitrate-nitrogen derived from fertilizer, may be present in these streams in concentrations that exceed health-based limits for drinking water.

### Pesticide Use

Data reported by Gianessi and Puffer (1990) indicate that more than 294 million pounds of herbicides (active ingredients) were used annually during 1987-89 in agricultural crop production in 12 States that drain to the Mississippi River and its major tributaries (fig. 1, table 1). These States (Arkansas, Illinois, Indiana, Iowa, Kansas, Louisiana, Minnesota, Mississippi, Missouri, Nebraska, Ohio, and Wisconsin) account for most of the herbicide use in the Mississippi River basin. Herbicides used in these States account for about 60 percent of the total herbicide use for agriculture in the United States. Herbicides used in largest quantities are listed in table 2 along with selected physical and chemical properties, maximum contaminant levels (MCL) and health advisory (HA) levels for drinking water, and principal target crops. Herbicides with solubilities larger than about 30 mg/L, organic carbon partition coefficients ( $K_{oc}$ ) smaller than 300-500, and soil half-lives greater than 21 days (table 2) are relatively mobile and persistent in the aquatic environment (Becker and others, 1989). Five herbicides (alachlor, atrazine, metolachlor, EPTC, and cyanazine) account for about 63 percent of the herbicides used in the 12-State area. They are used primarily on corn, soybeans, and sorghum.

### Previous Studies

Studies conducted by the U.S. Geological Survey in 1989 and 1990 indicate that herbicides are flushed from cropland each spring and summer and are transported into streams tributary to the Missouri, Ohio, and Mississippi Rivers (Goolsby and others, 1991; Thurman and others, 1991). During May and June 1989, median concentrations of atrazine, alachlor, cyanazine, and metolachlor ranged from 1 to 3  $\mu\text{g/L}$  in samples from streams draining hundreds to several thousand square miles; maximum concentrations for these four herbicides ranged from more than 10 for alachlor to more than 100  $\mu\text{g/L}$  for atrazine (Thurman and others, 1991). Similar concentrations were measured in samples collected during May and June 1990 (Goolsby and others, 1991; Thurman and others, 1991). These studies also show that concentrations of herbicide that exceed MCLs can persist in streams for several months following application. For example, the concentration of atrazine in the West Fork Big Blue River in Nebraska (fig. 1) remained above the 3  $\mu\text{g/L}$  MCL from early May until the end of August in 1990 (Thurman and others, 1991). A large increase in herbicide concentration in streams following application also has been documented in Iowa (Squillace and Engberg, 1988), Ohio (Baker and Richards, 1989), and Nebraska (Snow and Spalding, 1988).

Major rivers such as the Missouri, Ohio, and Mississippi are affected by the discharge of herbicides from tributary streams. Many water samples have been collected at points along the Mississippi River as part of U.S. Geological Survey research on sediment-related transport of organic substances in the river (Meade, 1989). Pereira and Rostad (1990) reported concentrations of dissolved atrazine and alachlor as large as about 1  $\mu\text{g/L}$  in samples collected between St. Louis, Mo., and New Orleans, La., during May and June 1988. During mid-June 1990, atrazine concentrations in this same reach of the Mississippi River ranged from 3.0 to 4.5  $\mu\text{g/L}$  (U.S. Geological Survey, unpublished data). Very recently, the Missouri River Public Water Supplies Association (Keck, 1991) reported sustained large concentrations of atrazine throughout the lower 500 miles of the Missouri River during May and June 1991. This study showed that at one site near St. Louis, Mo., in the lower reaches of the Missouri River, atrazine concentration exceeded



Figure 1.--Location of sampling sites.

Table 1.--Amounts of principal herbicides used on crops in 12 States draining to the Mississippi River, 1987-89, in order of decreasing use (Source: Gianessi and Puffer, 1990)

[--, no data; <, less than]

Herbicide	Amount used, in thousands of pounds of active ingredients per year											
	Ark.	Ill.	Ind.	Iowa	Kans.	La.	Minn.	Miss.	Mo.	Nebr.	Ohio	Wis.
Atrazine	568	8,708	5,309	7,102	5,560	1,110	2,235	290	3,964	15,457	3,929	4,336
Alachlor	560	7,689	7,638	9,898	1,844	722	4,547	229	2,759	3,691	5,428	3,185
Metolachlor	1,220	9,293	3,927	9,116	1,607	732	1,309	363	1,727	2,177	3,695	1,260
EPTC	5	1,703	350	7,971	867	241	7,664	19	769	1,020	312	1,015
Cyanazine	147	2,244	1,979	7,743	135	91	1,051	709	800	2,052	1,321	1,540
Trifluralin	1,126	3,066	973	4,481	948	802	2,566	1,512	1,850	671	446	82
2,4-D	561	1,033	432	1,146	2,152	741	1,064	340	1,352	488	251	242
Butylate	12	2,477	1,329	1,325	1,218	16	837	13	953	1,003	959	322
Beniazon	1,004	1,908	668	1,328	141	531	1,232	306	396	259	184	97
Pendimethalin	693	1,359	478	1,423	113	373	749	734	857	297	420	202
Propanil	1,166	--	--	--	--	751	--	704	219	--	--	--
Metribuzin	233	695	471	626	188	268	139	267	404	36	406	96
Glyphosate	237	202	113	153	203	228	645	601	325	104	725	149
MSMA	358	--	--	--	--	1,062	--	2,056	--	--	--	--
Propachlor	--	204	--	93	991	--	46	--	533	709	--	49
Molinate	1,458	--	--	--	--	563	--	196	19	--	--	--
Chloroben	--	180	89	1,336	188	16	935	<1	121	87	112	37
Simazine	<1	310	76	<1	45	3	<1	27	4	14	273	1

Table 2.--Summary of data for principal herbicides used in 12 States draining to the Mississippi River

[K<sub>oc</sub>: organic-carbon partition coefficient; mg/L, milligrams per liter; µg/L, micrograms per liter; --, no data; \*, none established]

Herbicide	1/Annual use during 1987-89	2/Solubility (mg/L)	2/Soil half-life (days)	2/K <sub>oc</sub>	3/Maximum contaminant level (µg/L)	3/Lifetime health advisory (µg/L)	1/Principal target crops
Atrazine	58,568	33	60	100	3	3	Corn, sorghum, sugar cane
Alachlor	48,190	240	15	170	2	*	Corn, soybeans, sorghum
Meclochlor	36,426	530	20	200	*	100	Corn, soybeans, sorghum
EPTC	21,936	375	30	280	*	*	Corn, hay
Cyanazine	19,812	170	14	190	*	10	Corn, cotton, sorghum
Trifluralin	18,523	0.3	60	7,000	*	2	Soybeans, cotton
2,4-D	9,802	9/	10	9/	70	70	Pasture, wheat, corn, hay
Butylate	10,464	46	12	126	*	350	Corn
Bentazon	8,054	230,000	20	35	*	20	Soybeans, rice
Pendimethalin	7,698	0.3	90	24,300	*	*	Soybeans, corn, cotton
Propanil	5,840	220	1	188	*	*	Rice
Metribuzin	3,829	1,220	30	41	*	200	Soybeans, hay, sugar cane
Glyphosate	3,690	900,000	47	24,000	700	700	Soybeans, corn, cotton, pasture
MSMA	3,476	--	--	--	*	*	Cotton
Propachlor	3,464	613	6	80	*	90	Sorghum, corn
Molinate	2,236	--	--	--	*	100	Rice
Chloroben	3,102	7/	14	7/	*	100	Soybeans
Simazine	755	6.2	75	138	5/1	1	Corn, seed crops, orchards

1/ Annual use in thousands of pounds of active ingredient, from Gianessi and Puffer (1990)

2/ Source: Becker and others (1989)

3/ Source: U.S. Environmental Protection Agency (1991a)

4/ Source: U.S. Environmental Protection Agency (1991b)

5/ Source: U.S. Environmental Protection Agency (1990)

6/ Solubilities: 2,4-D amine, 796,000 mg/L; 2,4-D ester, 1 mg/L; K<sub>oc</sub>: 2,4-D amine 20; 2,4-D ester 1,000

7/ pH dependent

the MCL of 3  $\mu\text{g/L}$  35 percent of the time between May 1 and July 28, 1991. A few samples had concentrations of alachlor that exceeded the MCL of 2  $\mu\text{g/L}$ , but no samples exceeded the simazine MCL of 1  $\mu\text{g/L}$ .

Results from these studies indicate that measurable quantities of herbicides enter the Ohio, Missouri, and Mississippi Rivers each year. Much of these herbicides ultimately discharge into the Gulf of Mexico. Little is known, however, about the temporal distribution, timing and annual mass transport, and duration of concentrations of herbicides above MCLs in these major rivers, or the predominant source areas for these herbicides.

#### Objectives of This Study

In order to assist Federal and State agencies in determining if agricultural chemicals are present in concentrations that can affect water use in the Mississippi River system, the U.S. Geological Survey is presently (1991) conducting a study. Specific objectives of the study are to:

1. Determine the occurrence, temporal distribution, and annual mass transport of selected major insecticides, herbicides, herbicide metabolites, and inorganic nutrients in discharge from the Ohio, Missouri, and Mississippi Rivers and several smaller tributaries.
2. Determine the predominant source basins for insecticides, herbicides, and inorganic nutrients and estimate the fraction of the major agricultural chemicals applied throughout the Mississippi River basin that discharge to the Gulf of Mexico.
3. Determine the seasonality and timing of the transport of insecticides, herbicides, herbicide metabolites, nitrate, and orthophosphate.
4. Determine the duration of insecticide and herbicide concentrations greater than MCLs and HA levels for drinking water in the lower Ohio and Missouri Rivers and in the Mississippi River from the St. Louis area to New Orleans.
5. Test and implement a solid-phase-extraction gas chromatography/mass spectrometry analytical method that can be used to simultaneously analyze for several classes of pesticides including triazine, carbamate, and organophosphate compounds.

#### Purpose and Scope of this Report

Information obtained during the early phase of the study indicated that concentrations of some herbicides exceeded the drinking water MCLs or HAs in samples collected during May and June 1991. The purpose of this report is to document the methods used to collect and analyze the water samples and to describe the distributions of selected herbicides and nitrate-nitrogen at eight sampling sites on the Mississippi River and its major tributaries (fig. 1). The scope is limited to reporting information on the concentrations of five herbicides (atrazine, alachlor, cyanazine, metolachlor, and simazine) and nitrate-nitrogen in samples collected during April-June 1991.

After completion of the study in April 1992, all data and interpretation resulting from the study will be made available.

## METHODS

### Data Collection

This section provides a description of the sampling sites, the rationale for their selection, the sampling schedule, documentation of sample collection and sample analysis procedures, and a description of quality-assurance procedures for the study.

#### Description of Sampling Sites

The Mississippi River main stem is formed by the inflow from three major tributaries: the Missouri, the upper Mississippi, and the Ohio Rivers (fig. 1). Sampling sites were selected near the outflow of each of the three major rivers and on one or more large streams tributary to each of the three major rivers. The following is a brief description, by river basin, of each of the eight sampling sites. Their locations are shown on figure 1.

#### Upper Mississippi River Basin

1. Mississippi River at Clinton, Iowa (drainage area 85,600 square miles;  $mi^2$ ): This site is the uppermost sampling site on the Mississippi River main stem. Samples from this site provide a measure of the agricultural chemical inputs from the upper basin States of northeastern Iowa, Minnesota and Wisconsin.
2. Illinois River at Valley City, Ill. (drainage area 26,742  $mi^2$ ): Samples from this site provide a measure of the inputs from a major tributary to the upper Mississippi River and an area of intensive row crop agriculture.
3. Mississippi River at Thebes, Ill. (drainage area 713,200  $mi^2$ ): Samples from this site provide a measure of all agricultural chemicals discharged from the upper Mississippi and Missouri River basins and represent essentially all of the Mississippi River discharge above the Ohio River. These samples indirectly (mathematically) provide an estimate of inputs from basins draining eastern Iowa and parts of Illinois below the Clinton sampling site.

#### Missouri River Basin

4. Platte River at Louisville, Nebr. (drainage area 85,800  $mi^2$ ): Samples from this site measure the inputs from a major tributary to the Missouri River. It drains an area of intensely irrigated agriculture in Nebraska.
5. Missouri River at Hermann, Mo. (drainage area 524,000  $mi^2$ ): This site is near the mouth of the Missouri River, and samples from the site provide a measure of agricultural chemical discharge to the Mississippi River from the entire Missouri River basin.

Ohio River Basin

6. White River near Hazleton, Ind. (drainage area 11,305 mi<sup>2</sup>): This small basin drains an area of intensive agriculture in central and western Indiana. The White River discharges to the Wabash River, which in turn discharges to the Ohio River.
7. Ohio River near Grand Chain, Ill. (drainage area 203,100 mi<sup>2</sup>): Samples from this site provide a measure of all inputs from the Ohio River basin to the Mississippi River.

Lower Mississippi River Basin

8. Mississippi River at Baton Rouge, La. (drainage area 1,125,000 mi<sup>2</sup>): Measurements at this site and estimates of the Mississippi River diversions into the Atchafalaya River provide a measure of the total agricultural chemical discharge from the Mississippi River basin to the Gulf of Mexico. Discharge of agricultural chemicals into the Atchafalaya River, about 85 miles upstream from Baton Rouge (fig. 1), are estimated based on measurements of the quantity of water diverted to the Atchafalaya River and the concentrations of agricultural chemicals measured at Baton Rouge.

## Sampling Schedule

Sample collection for this study began in early April 1991 and will continue for one year. Sample collection occurs about once per week, but is more frequent during late spring and summer when the concentrations of agricultural chemicals are expected to be largest and less frequent in the winter when concentrations of these chemicals are expected to be smallest. The sampling schedule is as follows:

April 1991	1 sample per week
May 6-July 15, 1991	2 samples per week (except Ohio River-- 1 sample per week)
July 15-October 30, 1991	1 sample per week
November 1991-February 1992	1 sample every two weeks
March, 1992	1 sample per week

The twice-weekly samples during May, June, and July will provide more intensive information on the concentrations and transport of agricultural chemicals during the "first-flush" events following application. Special efforts are made to distribute these samples over the discharge hydrograph to obtain the best estimates of mass transport.

## Sample Collection and Processing Procedures

Samples are collected by equal-discharge-increment or equal-width-increment procedures (Edwards and Glysson, 1988) at all sites except the Mississippi River at Baton Rouge, La. Samples are collected in glass containers at five or more locations across the river at each sampling site using depth-integrating samplers and are composited in large glass or stainless steel

containers. A Teflon cone splitter is then used to divide the composite sample into subsamples to be analyzed for the concentrations of dissolved herbicides and insecticides, dissolved nitrate, nitrite, and ammonia-nitrogen, dissolved orthophosphate, total organic plus ammonia-nitrogen, total phosphorus, and suspended sediment. This procedure provides a sample that is representative of the entire cross section of the river and makes it possible to compute loads of dissolved and suspended substances.

Previous work has indicated that dissolved solutes in the Mississippi River at Baton Rouge, La., are well mixed vertically and laterally (C.R. Demas, U.S. Geological Survey, Baton Rouge, La., oral commun., 1991). Therefore, to minimize sample-collection costs, samples collected at Baton Rouge are collected from the upper 20 feet of the water column at the end of a dock that extends about 150 feet from shore. As a quality-assurance measure, samples are periodically collected at several points across the river channel to verify that the river is well mixed. Samples for total organic plus ammonia-nitrogen, total phosphorus, and suspended sediment are not collected at this site.

In the present study, samples for herbicide and insecticide analysis are filtered through a 142-millimeter-diameter glass-fiber filter with a nominal pore size of 0.7 micrometer using aluminum or stainless steel-filter holders. Filtration is accomplished using either compressed nitrogen gas or pumps with ceramic and/or Teflon pump mechanisms. The filtrate is collected in pre-cleaned glass bottles.

Samples for nutrients (dissolved nitrogen and phosphorus compounds) are filtered through 0.45 micrometer membrane filters and preserved with mercuric chloride (40 mg/L). All herbicide, insecticide, and nutrient samples are chilled immediately after collection and are shipped to the U.S. Geological Survey's National Water Quality Laboratory (NWQL) in Arvada, Colo., for analysis.

#### On-Site Measurements and Streamflow

On-site measurements for specific conductance and pH are made on the composite mixture for each sample. Stream temperature is measured in situ. Except for the Baton Rouge, La., site, measurements of streamflow are obtained from stage-discharge relations at stations operated by the U.S. Geological Survey. Streamflow data for the Baton Rouge site are provided by the U.S. Army Corps of Engineers, New Orleans District; these data are for Tarberts Landing, about 80 miles upstream from Baton Rouge, but should closely represent the discharge at Baton Rouge. The U.S. Army Corps of Engineers also provides streamflow data for Mississippi River water that is diverted into the Atchafalaya River (fig. 1). The sum of the flow at Baton Rouge and the Atchafalaya diversion closely represents the total discharge from the Mississippi River basin above Baton Rouge.

#### Analytical Procedures

All water samples are analyzed at the NWQL in Arvada, Colo., for herbicides, insecticides, and nitrogen and phosphorus compounds. Analytical procedures used to analyze for herbicides and nitrate are briefly described below. Because results for insecticides and nutrient

compounds other than nitrate are not presented in this report, analytical procedures for these compounds are not described.

### Herbicides

Two analytical procedures are presently in use at the NWQL to analyze for the herbicides of interest in this study. These are a liquid-liquid extraction procedure using methylene chloride, and a solid-phase extraction procedure. The primary procedure used to obtain the data presented in this report is solid-phase extraction. A few samples were split and analyzed by both solid-phase extraction and liquid-liquid extraction.

#### Solid-Phase Extraction

This procedure is used for the isolation and analysis of triazine and other nitrogen-containing compounds. The procedure is described in detail by Sandstrom and others (in press), and is a modification of the procedure previously described by Thurman and others (1990). Approximately 100 milliliters of sample that has been filtered on-site through a 0.7-micrometer glass-fiber filter is pumped through a disposable C-18 solid-phase-extraction cartridge. Prior to extraction, a surrogate standard (terbuthylazine) is added to the sample to aid in determining the extraction efficiency and to aid in interpreting the analytical results. After extraction, the cartridges are dried with nitrogen gas and eluted with 1.8 milliliters of hexane-isopropanol (3:1) to remove the extracted compounds. The eluent is evaporated to about 100 microliters ( $\mu\text{L}$ ) and herbicides are analyzed on a gas chromatograph equipped with a capillary column. Herbicides are identified and quantified with a mass spectrometer detector based on selected ion monitoring of the parent compound and two characteristic ions for each herbicide. Reporting limits for the five herbicides summarized in this report are 0.05  $\mu\text{g/L}$  for alachlor, atrazine, metolachlor, and simazine, and 0.2  $\mu\text{g/L}$  for cyanazine.

#### Liquid-Liquid Extraction

This is a long-established procedure for the analysis of triazine and other nitrogen-containing herbicides (Wershaw and others, 1987). The procedure is based on extraction of a 1-liter sample with methylene chloride. Extracts are analyzed on a gas chromatograph equipped with dual nitrogen-phosphorus detectors. This procedure is slightly less sensitive than the solid-phase extraction procedure, but has a long and well-documented history of use.

### Nitrate-Nitrogen

Nitrate is determined by an automated colorimetric procedure. An aliquot of the sample is passed through a cadmium column on which nitrate is chemically reduced to nitrite (Fishman and Friedman, 1989). The resulting solution, which contains both the nitrite originally present in the sample plus the nitrite produced from the reduction of nitrate, is analyzed colorimetrically. A second part of the sample that does not pass through the cadmium column also is analyzed for nitrite. The concentration of nitrate in the sample is then calculated from the difference between these two determinations.

### Quality-Assurance Procedures

Before collection of each sample, all sampling equipment is washed with a phosphate-free laboratory detergent, rinsed with tap water and distilled or deionized water, rinsed with a small amount of methanol and allowed to air dry. At the sampling site, all equipment (collection container, compositing container, cone splitter, pump mechanism, and filter) is rinsed with water from the stream. Glass-fiber filters and sample containers are baked at about 350 degrees Celsius to remove organic material. A field-equipment blank for pesticides is obtained with about every 10th sample. This sample consists of organic-free water that is processed through all of the sampling and filtration equipment. The sample is analyzed for the herbicides of interest. Sample collection and processing procedures used in the field are periodically reviewed for conformance with protocols established for the project.

Laboratory quality-assurance procedures include the determination of surrogate compound recoveries in each sample, blank, and laboratory reagent-water spikes. Blanks are used to verify that the glassware and reagents used in sample preparation are free of contamination. The surrogate added to each sample is used to monitor the extraction efficiency for each sample. Reagent-water spikes monitor extraction efficiencies for each analyte of interest. Spike data also are used to compile recovery statistics from which control limits can be established. Additional quality-assurance procedures include analysis of blind spike samples submitted from the field and analysis of split samples by both solid-phase extraction and liquid-liquid extraction.

## ANALYTICAL RESULTS

### Herbicides and Nitrate-Nitrogen

Analytical results for five herbicides, obtained by solid-phase extraction, and nitrate-nitrogen in samples collected during April, May, and June 1991 are listed in table 3 along with streamflow data and measurements of physical properties (temperature, pH, and specific conductance). The sampling sites are listed in downstream order in accordance with the streamflow-station numbering system of the U.S. Geological Survey. Results of analyses for herbicides and nitrate-nitrogen are statistically summarized in table 4. These results and their significance are discussed in subsequent sections of this report.

### Quality-Assurance Samples

Results for herbicide recovery on reagent-water spikes are shown in table 5 for the solid-phase extraction and in table 6 for liquid-liquid extraction. Similar recoveries are obtained by both procedures. Atrazine recovery using solid-phase extraction ranged from 48 to 105 percent and averaged 88.5 percent. Similar recoveries were obtained for the other herbicides analyzed using this procedure. During May and June, 13 blind spikes in distilled water with concentrations ranging from 0.5  $\mu\text{g/L}$  to 4.0  $\mu\text{g/L}$  were analyzed using this procedure. Recoveries for the five herbicides of interest were within the range for the reagent-water spikes shown in table 5. For example, atrazine recovery ranged from 56 percent to 95 percent and averaged 82 percent

Table 3.--Streamflow, physical property data, and results of analyses for herbicides and nitrate-nitrogen in samples collected during April, May, and June 1991

Date	Time	Instantaneous streamflow (ft <sup>3</sup> /s)	Temperature (°C)	pH	Specific		Nitrate-nitrogen (mg/L)	Alachlor (µg/L)	Atrazine (µg/L)	Cyanazine (µg/L)	Metolachlor (µg/L)	Simazine (µg/L)
					conductance (µS/cm)	ductance (µS/cm)						
03374100 - White River at Hazleton, Ind.												
May	1000	14,100	17.5	7.9	436	2.09	<0.05	0.26	<0.02	0.19	<0.05	
	1115	11,900	17.5	8.0	444	1.60	<0.05	0.35	<0.02	0.16	0.07	
	1215	11,600	17.5	8.2	481	1.59	<0.05	0.42	0.20	0.20	0.06	
	1300	9,480	20.5	8.0	494	1.58	0.68	3.7	0.70	1.1	0.33	
	16	1130	8,010	23.5	8.2	568	1.18	0.08	0.60	0.35	0.12	
	20	1045	8,640	24.0	8.1	572	1.48	0.25	1.4	0.70	0.27	0.14
	23	1100	9,980	24.5	8.0	537	2.16	1.3	3.4	1.40	1.5	0.30
	28	1100	9,480	26.0	7.8	523	3.98	3.2	8.6	4.40	2.2	0.51
	30	1200	8,400	27.5	7.9	540	3.07	2.1	9.2	2.80	3.3	0.72
	June	1200	7,750	28.5	7.9	511	3.05	0.88	8.2	2.10	2.8	0.58
1145		11,200	27.0	7.9	537	3.27	1.3	5.1	1.30	2.0	0.38	
1200		6,520	26.5	--	522	2.89	1.2	5.5	2.00	2.2	0.70	
1300		5,410	27.0	8.3	609	2.48	0.96	5.8	1.60	1.9	0.45	
17		1200	4,950	27.5	8.3	581	1.28	0.30	3.2	0.87	0.89	0.17
20		1130	4,920	28.5	8.2	583	0.74	0.19	2.6	0.50	0.85	0.10
24		1215	4,370	27.5	8.3	577	0.86	0.27	2.7	0.60	0.98	0.16
27		1130	3,810	29.0	8.4	564	0.18	0.08	2.0	0.50	0.54	0.12

Table 3.--Streamflow, physical property data, and results of analyses for herbicides and nitrate-nitrogen in samples collected during April, May, and June 1991--Continued

Date	Time	Instantaneous streamflow (ft <sup>3</sup> /s)	Temperature (°C)	pH	Specific conductance (µS/cm)	Nitrate-nitrogen (mg/L)	Alachlor (µg/L)	Atrazine (µg/L)	Cyanazine (µg/L)	Metolachlor (µg/L)	Simazine (µg/L)
03612500 - Ohio River at Dam 53 near Grand Chain, Ill.											
Apr.											
10	1200	407,000	15.5	8.5	150	0.98	<0.05	0.12	<0.20	0.09	0.06
18	1045	595,000	16.5	7.6	231	0.85	<0.05	0.15	<0.20	<0.05	<0.05
23	1110	565,000	16.0	7.3	236	1.09	<0.05	0.51	0.21	0.32	0.07
May											
01	1040	362,000	18.0	8.3	202	0.97	<0.05	0.18	<0.20	0.08	<0.05
07	1022	291,000	19.5	8.1	179	0.63	<0.05	0.23	<0.20	0.12	0.08
14	1045	340,000	20.5	8.5	170	0.70	<0.05	0.47	<0.20	0.10	0.16
21	1045	240,000	23.0	8.3	230	1.07	0.11	1.7	0.40	0.39	0.40
29	1030	504,000	24.0	7.8	170	0.61	0.05	0.54	0.20	0.10	0.05
June											
04	1135	214,000	26.5	7.6	290	0.97	0.24	1.6	0.50	0.35	0.12
11	1045	107,000	26.0	6.4	246	1.47	0.33	1.9	0.50	0.72	0.07
18	1040	137,000	27.0	5.6	197	0.96	0.40	2.1	0.70	0.95	0.12
25	0946	137,000	27.5	6.2	272	0.79	0.13	1.3	0.40	0.42	0.11

Table 3.--Streamflow, physical property data, and results of analyses for herbicides and nitrate-nitrogen in samples collected during April, May, and June 1991--Continued

Date	Time	Instantaneous streamflow (ft <sup>3</sup> /s)	Temperature (°C)	pH	Specific conductance (µS/cm)					Nitrate-nitrogen (mg/L)	Alachlor (µg/L)	Atrazine (µg/L)	Cyanazine (µg/L)	Metolachlor (µg/L)	Simazine (µg/L)
05420500 - Mississippi River at Clinton, Iowa															
Apr.	02	127,000	8.0	7.5	305	0.55	<0.05	0.18	<0.20	<0.05	0.18	<0.20	<0.05	<0.05	<0.05
	11	110,000	11.5	8.2	332	1.78	<0.05	0.15	<0.20	<0.05	0.15	<0.20	0.07	<0.05	
	16	129,000	9.0	8.2	335	3.57	<0.05	0.17	<0.20	<0.05	0.17	<0.20	0.06	<0.05	
	23	130,000	11.5	8.6	295	2.48	<0.05	0.17	<0.20	<0.05	0.17	<0.20	0.08	<0.05	
May	01	117,000	14.0	8.5	366	2.58	0.06	0.15	<0.20	0.06	0.15	<0.20	0.07	<0.05	
	07	112,000	11.0	8.6	372	3.56	<0.05	0.17	<0.20	<0.05	0.17	<0.20	0.05	<0.05	
	10	111,000	14.0	8.5	375	3.36	<0.05	0.13	<0.20	<0.05	0.13	<0.20	0.10	<0.05	
	14	118,000	19.0	8.4	355	2.88	0.09	0.16	<0.20	0.09	0.16	<0.20	0.12	<0.05	
	17	132,000	20.5	8.7	355	2.67	0.06	0.12	<0.20	0.06	0.12	<0.20	0.06	<0.05	
	21	141,000	18.5	8.3	326	3.05	0.24	0.37	<0.20	0.24	0.37	<0.20	0.25	0.06	
	24	141,000	20.0	8.3	364	3.56	0.19	0.22	0.20	0.19	0.22	0.20	0.24	<0.05	
	28	123,000	24.0	8.4	370	3.74	0.23	0.41	0.30	0.23	0.41	0.30	0.21	<0.05	
	31	116,000	24.5	8.6	361	3.63	0.11	0.29	<0.20	0.11	0.29	<0.20	0.16	0.05	
June	04	113,000	23.5	8.4	338	3.47	0.48	0.78	0.30	0.48	0.78	0.30	0.36	0.11	
	07	127,000	23.0	8.2	303	2.90	0.24	0.50	0.30	0.24	0.50	0.30	0.26	<0.05	
	10	138,000	23.5	8.8	273	2.24	0.14	0.37	0.20	0.14	0.37	0.20	0.20	<0.05	
	13	149,000	25.5	8.3	279	2.23	0.14	0.35	0.30	0.14	0.35	0.30	0.20	<0.05	
	17	149,000	23.5	8.3	328	2.48	0.78	1.6	0.94	0.78	1.6	0.94	0.56	0.06	
	20	1345	128,000	26.0	8.2	362	3.18	0.85	1.6	0.85	1.6	0.82	0.72	0.06	
	24	1055	106,000	24.0	8.1	396	3.28	0.48	0.73	0.48	0.73	0.72	0.66	0.05	
	27	0915	96,900	25.0	8.3	425	3.79	0.54	0.66	0.54	0.66	1.20	0.87	<0.05	

Table 3.--Streamflow, physical property data, and results of analyses for herbicides and nitrate-nitrogen in samples collected during April, May, and June 1991--Continued

Date	Time	Instantaneous streamflow (ft <sup>3</sup> /s)	Temperature (°C)	pH	Specific conductance (µS/cm)	Nitrate-nitrogen (mg/L)	Alachlor (µg/L)	Atrazine (µg/L)	Cyanazine (µg/L)	Metolachlor (µg/L)	Simazine (µg/L)
05586100 - Illinois River at Valley City, Ill.											
Apr.	05	52,600	--	8.2	657	1.34	<0.05	0.18	<0.200	0.15	0.06
	17	42,700	--	7.0	670	5.33	0.62	2.4	1.30	1.5	<0.05
	26	53,700	14.5	6.9	631	6.23	0.14	0.96	0.700	0.92	<0.05
May	03	43,000	15.0	7.4	642	5.72	0.28	0.95	1.10	0.86	<0.05
	08	58,000	16.0	7.5	521	4.84	2.0	5.0	5.60	2.6	0.06
	10	57,800	23.0	6.8	516	5.23	3.0	6.3	2.90	4.4	0.14
	17	44,700	28.0	7.8	642	5.72	0.84	2.5	2.50	2.0	<0.05
	19	54,400	18.5	8.0	499	4.70	1.6	5.5	6.60	1.6	0.07
	22	50,100	21.5	7.5	495	6.38	0.92	3.4	2.90	2.1	0.05
	29	53,300	19.0	8.1	544	5.59	--	--	--	--	--
	31	64,800	25.0	8.1	468	4.60	0.97	4.9	2.50	2.0	0.07
June	04	55,200	28.0	7.9	585	5.67	0.85	4.6	2.70	2.1	0.09
	06	51,200	25.0	7.9	581	6.06	1.0	5.2	2.00	2.3	0.09
	11	40,300	25.0	7.9	627	5.69	0.84	4.7	1.80	2.0	0.14
	14	34,800	32.0	8.0	641	5.32	0.54	3.8	2.00	1.4	0.12
	18	29,800	29.5	8.1	651	4.60	0.36	2.1	0.900	0.78 A	0.07
	20	27,600	31.5	8.2	664	4.31	0.34	2.8	1.40	0.83	0.12
	24	17,100	13.0	7.9	661	3.34	0.17	2.4	1.40	0.63	0.09
	27	17,700	28.5	7.9	680	2.97	0.21	1.9	0.800	0.55	0.07

Table 3.—Streamflow, physical property data, and results of analyses for herbicides and nitrate-nitrogen in samples collected during April, May, and June 1991.—Continued

Date	Time	Instantaneous streamflow (ft <sup>3</sup> /s)	Temperature (°C)	pH	Specific						
					conductance (µS/cm)	Nitrate-nitrogen (mg/L)	Alachlor (µg/L)	Atrazine (µg/L)	Cyanazine (µg/L)	Metolachlor (µg/L)	Simazine (µg/L)
06805500 - Platte River at Louisville, Nebr.											
Apr.	09	4,800	--	8.7	635	0.16	0.10	0.25	<0.20	0.10	<0.05
	16	7,120	11.5	8.2	533	1.35	<0.05	0.37	<0.20	0.11	<0.05
	24	5,740	13.0	8.0	546	0.73	<0.05	0.06	<0.20	<0.05	<0.05
	29	5,430	11.0	8.8	595	0.29	0.14	0.66	<0.20	0.30	<0.05
May	06	8,870	10.0	8.4	470	0.68	0.27	1.3	0.38	0.47	<0.05
	09	7,910	18.0	8.3	588	0.97	0.14	0.81	0.20	0.21	0.09
	13	6,670	--	8.7	544	0.29	0.20	0.87	<0.20	0.21	<0.05
	16	1130	23.0	8.9	483	<0.05	0.17	0.35	0.40	0.09	<0.05
	21	0945	19.0	8.2	445	1.25	3.6	8.3	6.80	3.1	<0.05
	24	0740	22.0	8.0	480	0.74	0.51	2.4	1.40	0.70	<0.05
	29	11,000	27.0	8.5	269	0.78	1.4	6.5	1.70	2.2	0.07
	31	8,460	24.0	7.5	555	1.27	2.1	6.8	7.00	2.6	0.06
June	04	20,400	24.0	6.3	437	1.27	1.7	5.7	3.70	1.9	0.06
	07	1415	--	6.4	347	1.72	3.2	10	7.30	2.0	0.06
	11	1045	23.0	6.1	491	1.25	0.80	5.4	2.00	1.3	<0.05
	14	0750	22.0	6.4	360	1.26	0.99	4.7	1.90	1.4	0.05
	18	0935	--	7.4	540	1.16	0.59	3.4	3.20	0.80	<0.05
	21	1020	23.0	6.3	521	0.86	0.15	1.9	1.30	0.34	<0.05
	24	1110	22.0	7.4	540	1.20	0.23	1.8	0.70	0.33	<0.05
	27	5,010	26.0	6.3	678	--	0.10	1.4	0.900	0.20	<0.050

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Table 3.--Streamflow, physical property data, and results of analyses for herbicides and nitrate-nitrogen in samples collected during April, May, and June 1991--Continued

Date	Time	Instantaneous streamflow (ft <sup>3</sup> /s)	Temperature (°C)	pH	Specific						
					conductance (µS/cm)	Nitrate-nitrogen (mg/L)	Alachlor (µg/L)	Atrazine (µg/L)	Cyanazine (µg/L)	Metolachlor (µg/L)	Simazine (µg/L)
06934500 - Missouri River at Hermann, Mo.											
Apr.	09	41,400	--	8.2	570	1.68	0.07	0.37	<0.20	0.15	<0.05
	16	117,000	16.5	8.8	429	0.87	0.21	1.2	0.60	0.38	<0.05
	24	129,000	14.0	7.9	365	2.13	0.11	1.1	0.45	0.53	<0.05
May	01	128,000	17.5	8.0	502	2.45	0.26	1.6	0.70	0.79	<0.05
	06	149,000	16.5	7.6	361	1.63	0.33	2.6	1.50	1.0	<0.05
	09	142,000	16.5	7.9	375	1.55	0.47	3.2	0.80	0.77	0.09
	13	97,100	18.0	8.1	429	1.76	0.18	1.9	0.60	0.55	0.07
	16	1020	21.5	8.1	370	1.36	0.17	1.8	0.50	0.43	<0.05
	20	84,300	22.0	7.9	515	2.06	0.19	1.7	0.70	0.48	<0.05
	24	1000	23.0	8.1	549	2.20	0.68	2.7	2.10	1.4	<0.05
	28	1030	24.0	7.9	406	1.80	0.57	2.9	1.60	1.3	<0.05
	31	1040	25.5	8.2	430	1.80	0.42	3.2	2.00	1.1	<0.05
June	03	120,000	26.5	8.1	538	2.20	0.27	3.1	1.60	0.80	<0.05
	06	111,000	25.5	8.0	433	2.39	0.57	5.4	2.00	1.7	<0.05
	11	98,600	25.0	8.1	539	2.90	0.41	5.7	4.30	1.4	0.08
	13	84,100	26.0	8.2	458	2.59	0.92	5.7	4.70	1.7	0.06
	21	93,400	27.5	7.9	470	2.48	0.43	5.5	1.80	2.0	<0.05
	25	1130	28.0	8.2	486	2.98	0.23	3.9	2.10	1.7	<0.05
	27	1045	29.0	8.1	551	2.90	0.29	3.5	0.60	0.93	0.07

Table 3.—Streamflow, physical property data, and results of analyses for herbicides and nitrate-nitrogen in samples collected during April, May, and June 1991—Continued

Date	Time	Instantaneous streamflow (ft <sup>3</sup> /s)	Temperature (°C)	pH	Specific conductance (µS/cm)	Nitrate-nitrogen (mg/L)	Alachlor (µg/L)	Atrazine (µg/L)	Cyanazine (µg/L)	Metolachlor (µg/L)	Simazine (µg/L)
07022000 - Mississippi River at Thebes, Ill.											
Apr.	11	285,000	14.5	7.8	489	5.02	0.31	0.64	<0.20	0.20	<0.05
	18	395,000	17.0	7.8	425	2.63	—	—	—	—	—
	24	41,000	13.5	7.8	408	3.75	0.21	1.0	0.52	0.52	<0.05
	29	379,000	16.5	7.9	454	4.75	0.12	0.63	0.40	0.31	<0.05
May	07	372,000	17.0	7.8	407	3.94	0.58	3.2	3.10	1.1	<0.05
	09	411,000	17.0	7.8	377	3.44	0.34	1.7	1.40	0.58	<0.05
	13	395,000	17.5	7.9	393	3.73	0.63	3.6	1.60	1.1	0.10
	16	370,000	20.0	7.9	482	4.33	0.31	1.3	1.00	0.69	<0.05
	20	378,000	23.5	7.8	434	4.13	0.13	0.80	0.50	0.24	<0.05
	23	340,000	22.0	7.7	433	3.96	0.59	2.4	2.30	0.75	<0.05
	28	390,000	25.5	8.2	468	4.08	0.65	2.4	2.80	1.4	<0.05
	30	406,000	25.0	8.0	422	4.10	0.77	3.0	2.50	1.7	<0.05
June	03	384,000	25.5	7.9	392	4.88	0.46	2.0	1.30	1.2	<0.05
	06	375,000	26.0	8.2	478	4.89	0.39	2.5	1.30	1.1	<0.05
	10	360,000	26.5	7.9	471	4.99	0.86	4.2	1.80	1.9	<0.05
	13	333,000	26.0	8.2	489	5.10	0.84	3.9	2.30	2.2	<0.05
	18	326,000	26.0	7.7	464	4.60	0.39	2.2	1.40	1.1	<0.05
	20	336,000	26.5	8.1	468	4.40	0.19	1.2	0.50	0.58	<0.05
	24	318,000	29.0	8.1	451	4.38	0.36	3.2	1.80	1.4	0.05
	27	300,000	27.0	8.2	434	4.30	0.85	3.3	0.06	1.8	0.080

Table 3.—Streamflow, physical property data, and results of analyses for herbicides and nitrate-nitrogen in samples collected during April, May, and June 1991—Continued

Date	Time	Daily mean streamflow (ft <sup>3</sup> /s)	Temperature (°C)	pH	Specific		Nitrate-nitrogen (mg/L)	Alachlor (µg/L)	Atrazine (µg/L)	Cyanazine (µg/L)	Metolachlor (µg/L)	Simazine (µg/L)
					conductance (µS/cm)	ductance (µS/cm)						
07374000 - Mississippi River at Baton Rouge, La.												
Apr	11	882,000	16.5	7.9	366	1.99	<0.05	0.28	<0.20	0.12	<0.05	
	17	972,000	18.0	7.8	306	1.88	<0.05	0.23	<0.20	0.10	<0.05	
	24	1,020,000	18.0	7.8	293	1.69	<0.05	0.39	<0.20	0.13	<0.05	
	01	1,140,000	18.5	7.6	300	1.50	0.06	0.52	0.30	0.18	<0.05	
May	06	1,160,000	19.0	7.6	280	1.59	<0.05	0.49	0.20	0.18	<0.05	
	09	1,170,000	19.0	7.6	277	1.70	0.13	1.0	0.21	0.31	0.10	
	13	1,150,000	21.0	7.6	281	1.80	0.10	0.59	<0.20	0.23	0.08	
	16	1,120,000	22.0	7.5	295	1.89	<0.05	0.34	0.20	0.14	<0.05	
	20	1,050,000	22.5	—	291	1.89	0.13	1.2	0.90	0.38	<0.05	
	24	1,020,000	23.0	7.7	294	1.89	0.14	1.1	0.60	0.40	<0.05	
	28	965,000	24.5	7.8	311	2.00	0.07	0.83	0.30	0.36	<0.05	
	30	934,000	25.0	7.7	316	1.9	0.13	1.1	0.40	0.36	0.09	
	June	03	869,000	26.0	7.7	336	2.0	0.18	1.6	0.90	0.48	0.08
		06	870,000	27.0	7.7	353	2.4	0.34	2.0	1.10	0.71	0.08
10		856,000	26.5	7.7	307	2.0	0.23	1.5	0.80	0.67	0.05	
13		809,000	27.0	7.8	338	2.3	0.29	2.6	1.20	0.97	0.11	
17		724,000	27.5	7.8	382	2.59	0.20	1.9	0.80	0.71	0.05	
20		641,000	28.0	8.0	403	2.60	0.30	2.5	0.88	0.87	0.07	
24		583,000	28.0	8.0	410	3.30	0.44	3.6	1.80	1.4	0.08	
27		574,000	28.0	8.0	409	<0.05	0.40	2.6	1.50	1.2	0.07	

1 Sample exceeded holding time for herbicide extraction and nitrate analysis.

Table 4.—Statistical summary of results in downstream order for five herbicides and nitrate-nitrogen in samples collected during April, May, and June 1991

[>, greater than; MCL, maximum contaminant level; HA, health advisory level;  $\mu\text{g/L}$ , micrograms per liter; <, less than; mg/L, milligrams per liter; Note: MCLs are: alachlor-2  $\mu\text{g/L}$ , atrazine-3  $\mu\text{g/L}$ , simazine 1  $\mu\text{g/L}$ ; HAs are: cyanazine-10  $\mu\text{g/L}$ , metolachlor-100  $\mu\text{g/L}$ ]

River (fig. 1)	Site (fig. 1)	Number of samples	Percent detections	Number of samples > MCL or HA	Concentration		Number of samples > MCL or HA	Percent detections	Concentration		
					Median ( $\mu\text{g/L}$ )	Maximum ( $\mu\text{g/L}$ )			Median ( $\mu\text{g/L}$ )	Maximum ( $\mu\text{g/L}$ )	
Atrazine											
White	Hazelton	17	82	2	0.30	3.2	17	100	9	3.2	9.2
Ohio	Grand Chain	12	50	0	<0.05	0.40	12	100	0	0.52	2.1
Mississippi	Clinton	21	71	0	0.14	0.85	21	100	0	0.29	1.6
Illinois	Valley City	18	94	1	0.73	3.0	18	100	9	3.1	6.3
Platte	Louisville	20	90	3	0.25	3.6	20	100	8	1.8	10
Missouri	Hermann	19	100	0	0.29	0.92	19	100	9	2.9	5.7
Mississippi	Thebes	19	100	0	0.39	0.86	19	100	6	2.4	4.2
Mississippi	Baton Rouge	20	75	0	0.13	0.44	20	100	1	1.1	3.6
Alachlor											
Cyanazine											
White	Hazelton	17	88	0	0.7	4.4	17	100	0	0.98	3.3
Ohio	Grand Chain	12	58	0	0.2	0.7	12	92	0	0.22	0.95
Mississippi	Clinton	21	48	0	<0.2	1.2	21	95	0	0.20	0.87
Illinois	Valley City	18	94	0	1.9	6.6	18	100	0	1.5	4.4
Platte	Louisville	20	75	0	1.1	7.3	20	95	0	0.40	3.1
Missouri	Hermann	19	95	0	1.5	4.7	19	100	0	0.93	2.0
Mississippi	Thebes	19	95	0	1.4	3.1	19	100	0	1.1	2.2
Mississippi	Baton Rouge	20	80	0	0.5	1.8	20	100	0	0.37	1.4
Metolachlor											

Table 4.—Statistical summary of results in downstream order for five herbicides and nitrate-nitrogen in samples collected during April, May, and June 1991.—Continued

River (fig. 1)	Site (fig. 1)	Number of samples	Percent detections	Number of samples > MCL or HA	Concentration		Number of samples	Number of samples > MCL or HA	Concentration		
					Median ( $\mu\text{g/L}$ )	Maximum ( $\mu\text{g/L}$ )			Median ( $\text{mg/L}$ )	Maximum ( $\text{mg/L}$ )	
Simazine											
White	Hazelton	17	94	0	0.17	0.72	17	0	1.60	3.98	
Ohio	Grand Chain	12	83	0	0.08	0.40	12	0	0.96	1.47	
Mississippi	Clinton	21	28	0	<0.05	0.11	21	0	3.05	3.79	
Illinois	Valley City	18	78	0	0.07	0.14	19	0	5.32	6.38	
Platte	Louisville	20	30	0	<0.05	0.09	19	0	0.97	1.72	
Missouri	Hermann	19	26	0	<0.05	0.09	19	0	2.13	2.98	
Mississippi	Thebes	19	16	0	<0.05	0.10	20	0	4.32	5.10	
Mississippi	Baton Rouge	20	55	0	0.05	0.11	20	0	1.89	3.30	
Nitrate-nitrogen											

Table 5.—Summary of recovery data for all reagent water spikes analyzed by solid-phase extraction during late May and June 1991

[All compounds spiked at a concentration of 2.0 micrograms per liter;  
 $\mu\text{g/L}$ , micrograms per liter; %, percent]

	Alachlor	Atrazine	Cyanazine	Metolachlor	Simazine
Number of samples	30	30	30	30	30
Mean recovery ( $\mu\text{g/L}$ )	1.69	1.77	1.86	1.86	1.75
Range of recovery ( $\mu\text{g/L}$ )	0.86-2.18	0.94-2.10	1.14-2.5	0.94-2.24	0.96-2.06
Standard deviation	0.26	0.24	0.40	0.24	0.24
Relative standard deviation (%)	15.09	13.32	21.39	12.92	13.52
Mean recovery (%)	84.5	88.5	92.8	93.2	87.6

Table 6.—Summary of recovery data for seven reagent water spikes analyzed by liquid-liquid extraction during late May and June 1991

[ $\mu\text{g/L}$ , micrograms per liter; %, percent]

	Alachlor	Atrazine	Cyanazine	Metolachlor	Simazine
Amount added ( $\mu\text{g/L}$ )	0.84	0.74	0.80	0.83	0.76
Number of samples	7	7	7	7	7
Mean recovery ( $\mu\text{g/L}$ )	0.73	0.65	1.02	0.71	0.66
Range of recovery ( $\mu\text{g/L}$ )	0.66-0.85	0.56-0.74	0.88-1.21	0.62-0.80	0.54-0.76
Standard deviation ( $\mu\text{g/L}$ )	0.07	0.06	0.12	0.07	0.08
Relative standard deviation (%)	9.91	9.87	11.51	10.16	12.20
Mean recovery (%)	86.7	87.3	127.9	85.2	86.5

Results obtained from the analyses of nine samples that were split and analyzed by both solid-phase extraction and liquid-liquid extraction are shown in table 7. Similar results were obtained for alachlor, metolachlor, and simazine. However, solid-phase extraction gave lower results than did liquid-liquid extraction for atrazine and cyanazine at concentrations greater than about 2 µg/L. These results and the spike recoveries indicate that concentrations obtained for atrazine by solid-phase extraction may be slightly (10-20 percent) lower than concentrations actually present in the samples.

Herbicides were not detected in any of the 17 field-equipment blanks analyzed during April, May, and June. This provides assurance that samples were not contaminated during sample collection and processing.

Table 7.—Results for split samples analyzed by solid-phase extraction and liquid-liquid extraction

[all results in micrograms per liter; <, less than; SPE, solid-phase extraction; LLE, liquid-liquid extraction]

Collection date	Alachlor		Atrazine		Cyanazine		Metolachlor		Simazine	
	SPE	LLE	SPE	LLE	SPE	LLE	SPE	LLE	SPE	LLE
Illinois River at Valley City, Ill.										
5/22/91	<sup>1</sup> 0.92	1.3	<sup>1</sup> 3.4	7.0	<sup>1</sup> 2.9	6.0	<sup>1</sup> 2.1	3.0	<sup>1</sup> 0.05	0.1
6/14/91	0.54	0.60	3.8	4.3	2.0	2.6	1.4	1.5	0.12	0.16
6/24/91	0.17	0.18	2.4	2.8	1.4	2.0	0.63	0.63	0.09	0.10
7/11/91	0.05	<sup>1</sup> <0.1	0.70	<sup>1</sup> 0.34	0.3	0.2	0.12	0.1	0.06	<sup>1</sup> 0.02
Platte River near Louisville, Nebr.										
5/21/91	<sup>1</sup> 3.6	3.3	<sup>1</sup> 8.3	12.8	<sup>1</sup> 6.8	7.6	<sup>1</sup> 3.1	3.3	<sup>1</sup> <0.05	0.06
5/29/91	1.4	1.1	6.5	8.1	1.7	1.2	2.2	1.6	0.07	0.07
6/4/91	1.7	1.6	5.7	9.0	3.7	8.7	1.9	1.5	0.06	0.09
6/7/91	3.2	3.9	10.0	13.2	7.3	10.9	2.0	1.8	0.06	0.1
7/8/91	<0.05	0.03	0.77	0.74	0.4	0.6	0.08	0.12	<0.05	0.02

<sup>1</sup> Sample had low surrogate recovery.

#### DISTRIBUTION OF HERBICIDES

Results obtained from the first 3 months of this study show that herbicides were present in the Mississippi River and several large tributaries (tables 3 and 4). Herbicide concentrations began to increase in early May in response to rainfall that occurred after herbicides were applied

to cropland. The pattern of occurrence was similar to that reported by Thurman and others (1991) for streams throughout 10 midwestern States. They reported that large concentrations of herbicides are transported through the surface-water system in pulses each year during late spring and summer. Results from the present study show that these pulses reach the major rivers of the Midcontinent and can cause herbicide concentrations to exceed drinking-water regulations for periods of several weeks or longer.

#### Areal Distribution

One or more herbicides were detected in every water sample collected during April, May, and June 1991 (table 3). The distribution of alachlor, atrazine, cyanazine, and metolachlor concentrations are shown in boxplots in figures 2 and 3 for each of the 8 sampling sites. Lines extending to the bottom and top of each boxplot show the minimum and maximum concentrations measured at each site. The horizontal line near the middle of each boxplot shows the median concentration and the bottom and top of the rectangular portion of the boxplot represent the 25th and 75th percentiles, respectively. For example, the boxplot of atrazine for the Illinois River (fig. 2) shows that concentrations ranged from 0.18  $\mu\text{g/L}$  to 6.3  $\mu\text{g/L}$  with a median of 2.8  $\mu\text{g/L}$ .

Atrazine was detected in every sample (146 samples) and had the largest concentrations of the herbicides measured (fig. 2, table 4). Median concentrations of atrazine ranged from 0.29  $\mu\text{g/L}$  for the Mississippi River at Clinton to 3.2  $\mu\text{g/L}$  for the White River (fig. 2). Cyanazine and metolachlor were detected in 78 and 98 percent of the samples, respectively. Median concentrations of cyanazine ranged from less than the reporting limit of 0.2  $\mu\text{g/L}$  (fig. 3) in the Mississippi River at Clinton to 1.9  $\mu\text{g/L}$  in the Illinois River. These two sampling sites also had the smallest median (0.20  $\mu\text{g/L}$ ) and largest median (1.5  $\mu\text{g/L}$ ) concentration of metolachlor, respectively. Overall, the concentrations of alachlor were somewhat lower than atrazine, cyanazine, and metolachlor. Median concentrations of alachlor ranged from less than 0.05  $\mu\text{g/L}$  in the Ohio River to 0.73  $\mu\text{g/L}$  in the Illinois River (table 4; fig. 2). Simazine was detected in less than one-half of the samples; its median concentration was less than the reporting limit of 0.05  $\mu\text{g/L}$ . Alachlor, atrazine, cyanazine, and metolachlor are among the most extensively used herbicides in the 12-State area of the Mississippi River basin (table 2).

The largest concentrations of herbicides were measured in samples from the smaller tributaries—the White, Illinois, and Platte Rivers (figs. 2 and 3, table 4), probably because of the greater percentage of drainage area of the smaller basins that is in cropland and the more rapid response of these rivers to rainfall, which transports herbicides to the streams. For example, the concentration of atrazine exceeded 5  $\mu\text{g/L}$  in about 25 percent of the samples collected from these tributaries, and the maximum atrazine concentration ranged from 6.3 to 10  $\mu\text{g/L}$  (fig. 2).

The median concentration of atrazine measured in samples from the Missouri River at Hermann (fig. 2, table 4), 2.9  $\mu\text{g/L}$ , was similar to median concentrations measured in samples from the smaller tributaries; the maximum atrazine concentration was 5.7  $\mu\text{g/L}$  (table 4). A recent study of herbicides in the Missouri River by Keck (1991) indicates that the herbicides are derived largely from tributaries discharging to the Missouri River in Iowa, Kansas, Missouri, and Nebraska.

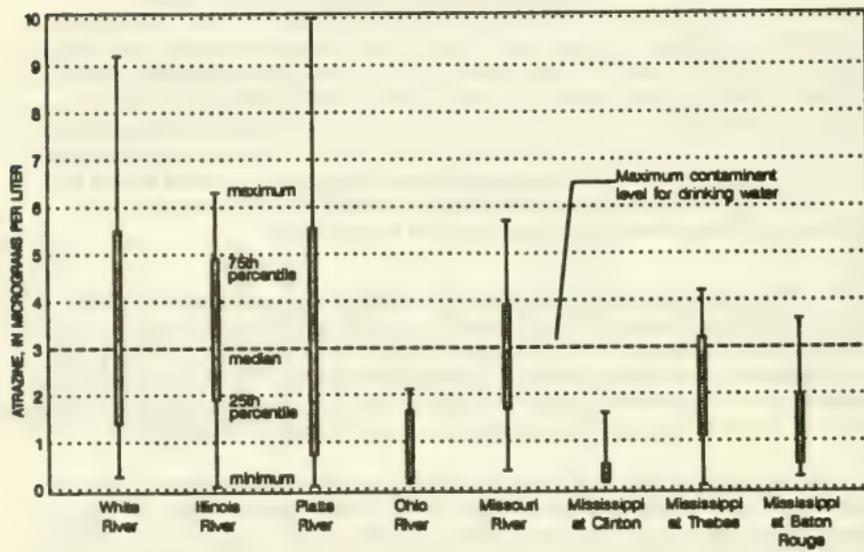
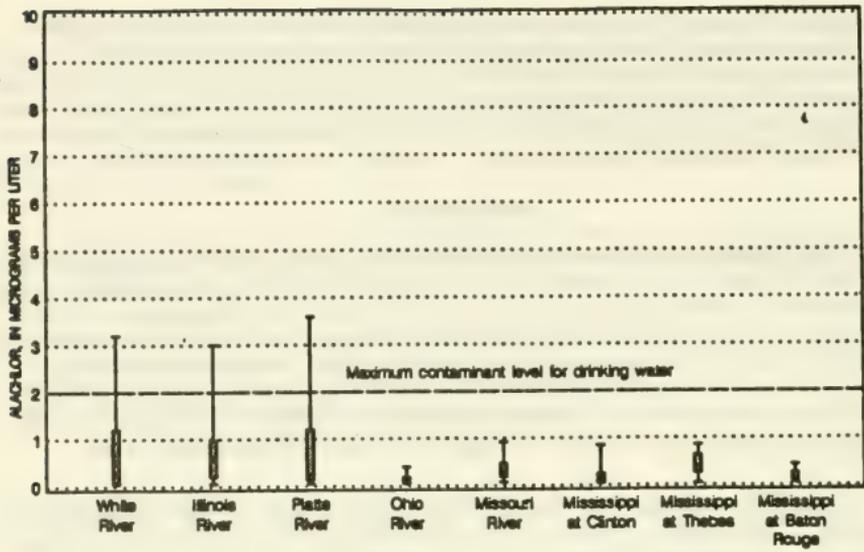


Figure 2.—Boxplots of alachlor and atrazine concentrations arranged by downstream order for samples collected in April, May, and June 1991.

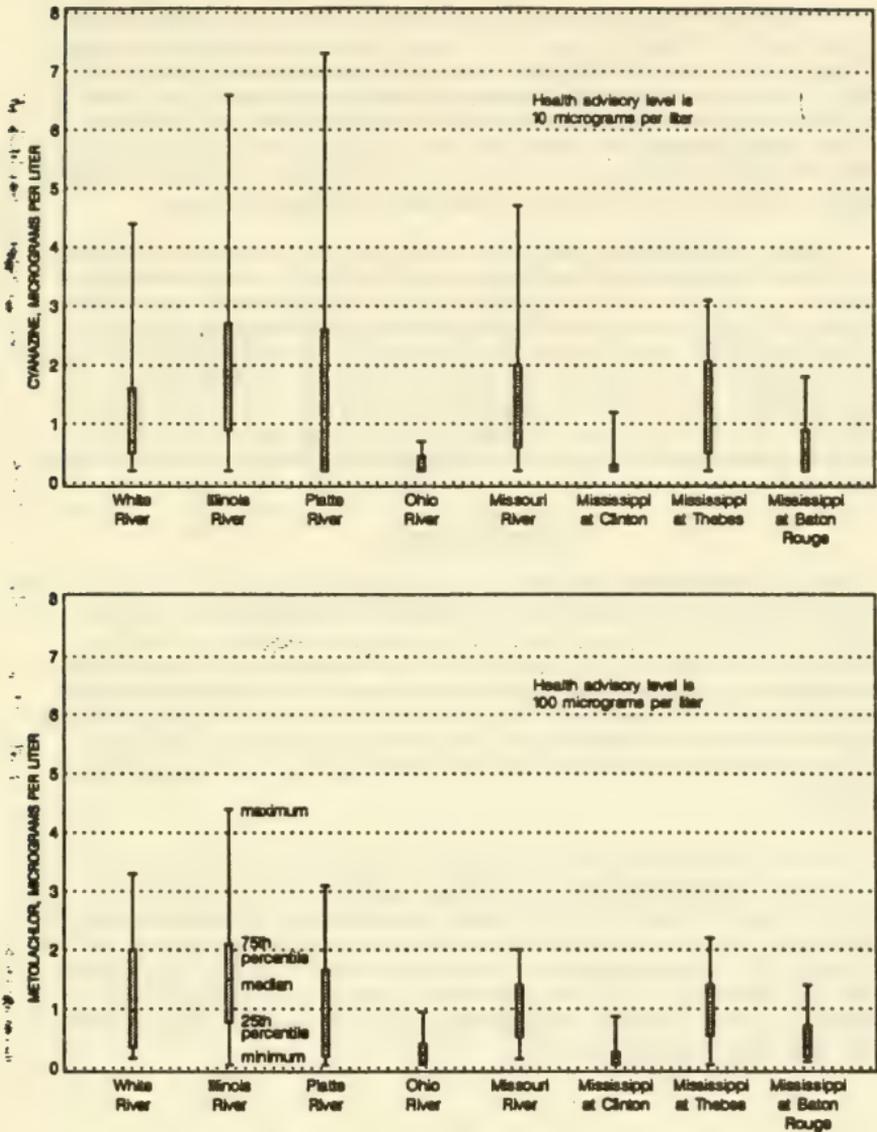


Figure 3.—Boxplots of cyanazine and metolachlor concentrations arranged by downstream order for samples collected in April, May, and June 1991.

Herbicide concentrations larger than 1  $\mu\text{g/L}$  were measured in many samples from the Mississippi River at the Thebes site (fig. 1). For example, the median concentration of atrazine was 2.3  $\mu\text{g/L}$  (table 4), and about 25 percent of the samples had concentrations larger than 3.2  $\mu\text{g/L}$  (fig. 2). Median concentrations of cyanazine and metolachlor exceeded 1  $\mu\text{g/L}$ . These concentrations reflect the inflow from the Missouri River and inflow from the Illinois River and other rivers draining from Iowa and Illinois downstream from the Clinton sampling site. As shown in a later section of this report (Atrazine Loads and Source Areas), the inputs from streams draining from Iowa and Illinois are larger than those from the Missouri River basin.

Herbicide concentrations generally were smallest in the Ohio River and in the Mississippi River at Clinton, Iowa, the most upstream sampling site (figs. 2 and 3). Median concentrations were about 0.5  $\mu\text{g/L}$  or less and the maximum concentration for any herbicide measured at these two sites was 2.1  $\mu\text{g/L}$  for atrazine in the Ohio River. This probably reflects the lower overall intensity of herbicide use in these drainage areas. Herbicides concentrations in excess of 20  $\mu\text{g/L}$  have been documented in drainage to the Ohio River from the States of Indiana and Ohio (Thurman and others, 1991). However, streamflow entering the Ohio River from Kentucky and Tennessee, where herbicide use is much less than in the other States, results in dilution and decreases the overall concentration of herbicides measured in the Ohio River at the Grand Chain, Ill., sampling site.

#### Temporal Distribution

The temporal distribution was similar for all herbicides. When the concentration of atrazine increased or decreased, so did the concentrations of the other herbicides. The rank correlation coefficient between atrazine and alachlor, cyanazine, and metolachlor was highly significant ( $p < 0.001$ ) for each of the eight sites. Thus, the temporal pattern for atrazine shown in figures 4-6 generally is indicative of the patterns (but not absolute concentrations) of the other herbicides measured. The temporal distribution for atrazine in the smaller tributaries--the White, Illinois, and Platte Rivers--is shown in figure 4. The distributions for atrazine in the major tributaries--the Missouri and Ohio Rivers--and in the Mississippi River main stem are shown in figures 5 and 6.

Herbicide concentrations in the smaller tributaries began to increase in early- to mid-May (fig. 4) following herbicide application and subsequent rainfall. Herbicide concentrations generally were largest between early May and early June, and began to decrease in mid-June. A smaller and more gradual increase in herbicide concentrations occurred in the Missouri and Ohio Rivers (fig. 5). The largest concentrations of herbicides in the Missouri River occurred a little later than in the tributaries. The atrazine concentrations measured in the Missouri River at Hermann (fig. 5) were very similar to concentrations reported by Keck (1991, p. 20) for a site at St. Louis, 60 to 70 miles farther downstream.

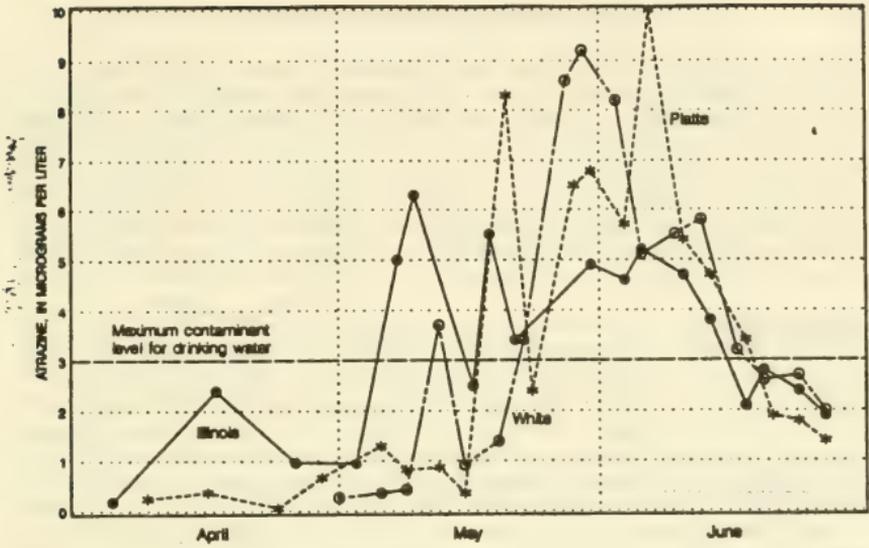


Figure 4.—Time-series plots of atrazine concentrations in the Illinois River at Valley City, Ill., Platte River at Louisville, Nebr., and White River at Hazelton, Ind., April through June 1991.

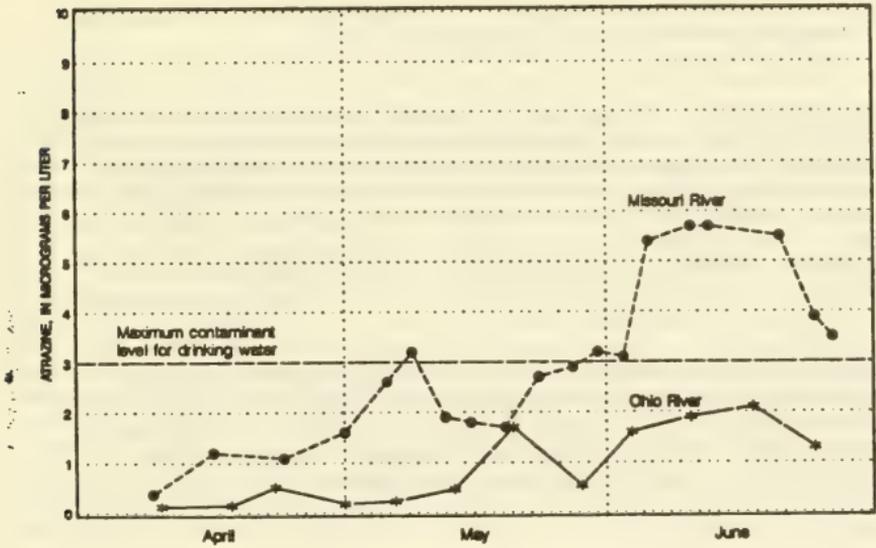


Figure 5.—Time-series plots of atrazine concentrations in the Missouri River at Hermann, Mo., and the Ohio River at Grand Chain, Ill., April through June 1991.

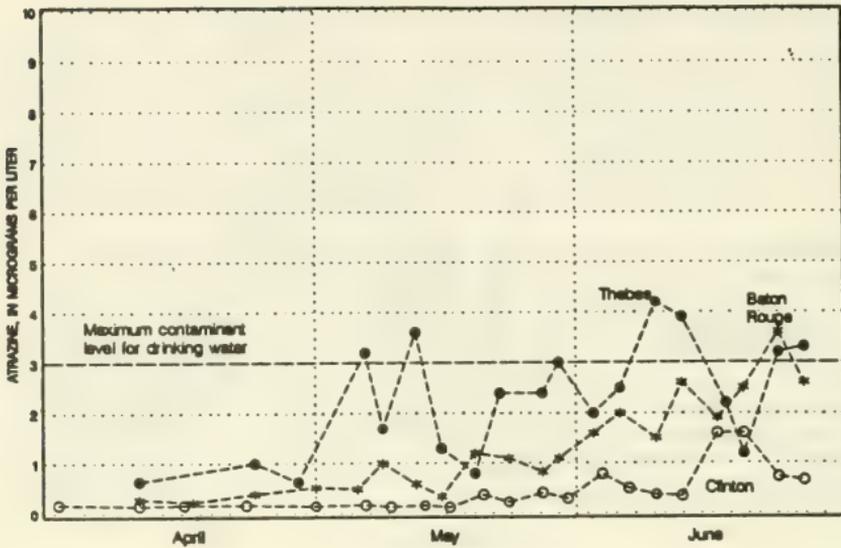


Figure 6.—Time-series plots of atrazine concentrations in the Mississippi River at Clinton, Iowa, Thebes, Ill., and Baton Rouge, La., April through June 1991.

An even smaller and more gradual increase in herbicide concentrations was measured on the Mississippi River main stem at the Thebes and Baton Rouge sites (fig. 6) than was measured on most tributaries. The increase in concentration at the Thebes site results from inflow to the Mississippi River from the Missouri River and streams draining from Iowa and Illinois. The concentrations at Baton Rouge result from inflow from the entire upper Mississippi River basin as measured by the Thebes site, inflow from the Ohio River, and to a small extent inflow from tributaries that enter the Mississippi below the Ohio River. The peak concentrations at Baton Rouge occurred 10 to 14 days later than at Thebes (fig. 6), which is the approximate travel time for this reach of the river (about 760 river miles).

Generally, the concentrations of herbicides began to decrease by mid-June, which is consistent with findings reported by Thurman and others (1991). It is also consistent with the concept of an annual cycle of increasing herbicide concentrations in streams after application and a subsequent decrease in concentrations as a result of chemical and biological degradation, sorption, transport in storm runoff, volatilization, and other processes.

### Relation to Maximum Contaminant Levels

About 18 million people in the Ohio, Missouri, and Mississippi River basin receive drinking water from surface-water sources (U.S. Geological Survey, Water Use Data System). Many of these sources are reservoirs and streams that are tributaries to these three major rivers. In addition, a number of cities withdraw water directly from the Ohio, Missouri, and Mississippi Rivers for public supply. These cities include: Cincinnati, Ohio, Evansville, Ind., and Louisville, Ky., on the Ohio River; Omaha, Nebr., Kansas City, Mo., and St. Louis, Mo., on the Missouri River; and Minneapolis/St. Paul, Minn., Cape Girardeau, Mo., and much of New Orleans, La., on the Mississippi River. The concentrations of herbicides in these rivers are therefore of interest to the suppliers and consumers of surface water throughout the entire Mississippi River basin.

Of the five herbicides studied, only two, atrazine and alachlor, occasionally were present in concentrations that exceeded the MCLs for drinking water established by the U.S. Environmental Protection Agency (1990, 1991a). The results in this report are for untreated river water whereas MCLs apply to water supplied to the user after treatment. However, conventional treatment processes generally do not remove these herbicides. Atrazine exceeded the MCL of 3  $\mu\text{g/L}$  in 27 percent of the samples collected during these 3 months, and alachlor exceeded the MCL of 2  $\mu\text{g/L}$  in 4 percent of the samples. On the basis of the 146 samples analyzed, atrazine exceeded the MCL from about mid-May to mid-June in the smaller tributaries (fig. 4), and for all of June in the Missouri River at Hermann (fig. 5). Atrazine also exceeded the MCL in the Mississippi River at Thebes during parts of May and June, and in one sample collected at Baton Rouge in late June (fig. 6). Alachlor only exceeded the MCL in 6 samples, all of which were collected from the three smaller tributaries (fig. 2) during mid- to late-May (table 3).

### Atrazine Loads and Source Areas

One of the objectives of this study is to determine the mass of each major herbicide transported in 1 year (April 1991-April 1992) into the Mississippi River from each of the principal tributaries, the mass transported to the Gulf of Mexico, and the principal source areas for the herbicides. This objective cannot be achieved with only 3 months of data. However, it is possible to determine the principal source areas, estimate the relative contribution from each, and estimate the loads transported during this 3-month period. This was accomplished for atrazine based on loads estimated by the following approach.

Loads were calculated for each day on which samples were collected using atrazine concentration and streamflow data (table 3). An average daily atrazine load was then estimated for each month by averaging the loads calculated from the samples collected that month. Generally, there were about four samples per month for April and seven or eight samples per month for May and June, except for the Ohio River which only had four samples per month for the entire period. The average daily load (pounds per day) for atrazine was then multiplied by the number of days in the month to obtain an estimate of the total load for each month (pounds). Loads for each month were summed to obtain the total atrazine mass transport for the 3-month period. Mass-transport estimates were made using this method for each site on the main stem of the Mississippi River, and the Missouri and Ohio Rivers. In addition, an estimate was obtained for the atrazine load entering the Mississippi River from Iowa and Illinois between the Clinton,

Iowa, site and the Missouri River (fig. 1). This estimate was obtained by subtracting the atrazine load for the Clinton site and the atrazine load for the Missouri River basin from the load calculated at the Thebes site. The mass transport of atrazine from the Mississippi River basin to the Gulf of Mexico was estimated from measurements of concentration at the Baton Rouge site and the flow at Baton Rouge plus the flow diverted into the Atchafalaya River. The results of these calculations are given in the following table for the period April-June 1991. Because the solid-phase extraction analytical procedure did not give 100 percent recovery of atrazine (see section of this report on quality assurance samples), and because no correction was made to account for incomplete recovery, the actual loads may be 10 to 20 percent larger than reported here.

Source area (see fig. 1)	Drainage area (mi <sup>2</sup> )	Atrazine (pounds)	<sup>1</sup> Atrazine (percent)
Mississippi basin above Clinton	85,600	24,900	4.8
Mississippi basin, Clinton to Missouri River	103,600	189,700	36.7
Missouri River basin	524,000	131,600	25.4
Ohio River basin	203,100	95,500	18.5
Undetermined	208,700	75,300	14.6
<sup>2</sup> Total discharge from Mississippi basin	1,125,000	517,000	100.0

<sup>1</sup> Percent of atrazine contributed to the total atrazine discharge from the Mississippi River basin.

<sup>2</sup> Flow at Baton Rouge plus flow diverted into Atchafalaya River.

Keck (1991) estimated the monthly loads of atrazine discharged from the Missouri River for May, June, and July 1991. The results for May and June are similar to results obtained in this study.

	Atrazine load, in pounds	
	Keck (1991)	This study
May 1991	40,262	44,800
June 1991	56,884	70,700
Total	97,146	115,500

Estimates obtained from this study for April, May, and June indicate that the area between the Clinton sampling site and the Missouri River contributes the largest percentage of atrazine (36.7 percent) to the Mississippi River. This area includes the Illinois River and numerous smaller rivers that discharge into the Mississippi River from Iowa and Illinois. The second largest source area is the Missouri River basin (25.4 percent), followed by the Ohio River basin (18.5 percent). The mass of atrazine discharged from the Mississippi River basin to the Gulf of Mexico during April, May, and June 1991 (517,000 pounds) is within the range reported by Pereira and

Rostad (1990). They reported an annual transport (converted from metric units) of 231,000 pounds in 1988 and 945,000 pounds in 1989. Their calculations were based on fewer samples than are available from the present study but were for the entire year. The atrazine discharge from the basin during April-June 1991 represents about 0.9 percent of the atrazine applied in the 12-State area (tables 1 and 2). The atrazine discharge from the Mississippi River basin for a 1-year period, obviously, will be somewhat larger than values for April-June.

#### DISTRIBUTION OF NITRATE-NITROGEN

The distribution of nitrate-nitrogen concentrations at the eight sampling sites is shown in figure 7. Concentrations were largest in the Illinois River and two Mississippi River main-stem sites—Clinton and Thebes. These results indicate that the major influx of nitrate-nitrogen to the Mississippi River is from Iowa, Illinois, and possibly Minnesota and Wisconsin. The maximum nitrate-nitrogen concentration measured in any sample was 6.4 mg/L in the Illinois River. Unlike the temporal distribution pattern for herbicides, nitrate-nitrogen showed very little response to rainfall, except in the smaller tributaries (table 3). None of the samples had nitrate-nitrogen concentrations in excess of the 10 mg/L MCL.

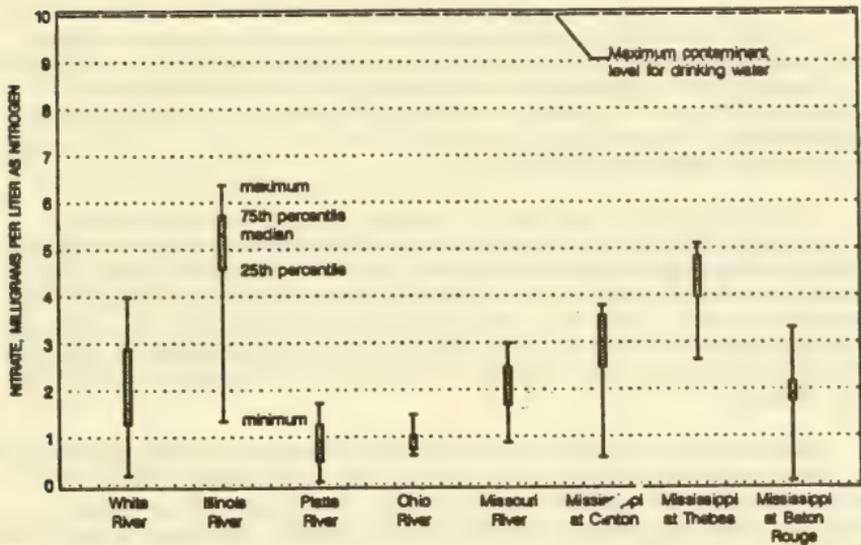


Figure 7.--Boxplots of nitrate-nitrogen concentrations arranged by downstream order for samples collected in April, May, and June 1991.

## SUMMARY

The U.S. Geological Survey is presently (1991) conducting a study to determine the distribution, transport, and persistence of herbicides, insecticides, and inorganic nutrients in the Mississippi River and several major tributaries. The study began in April 1991, and will continue for 1 year. Results obtained for April, May, and June 1991 showed the presence of herbicides in the Mississippi and Missouri Rivers and several smaller tributaries. These early findings prompted the preparation of this report in order to make the sampling methods and results available.

Water samples were collected once or twice a week from three sites on the main stem of the Mississippi River, and from sites on the Ohio River, the Missouri River, and three smaller tributaries. One or more herbicides were detected in every sample (146) collected in April, May, and June. Atrazine was detected most frequently (100 percent of samples), followed by cyanazine, metolachlor, alachlor, and simazine. The median concentration of atrazine ranged from 0.29  $\mu\text{g/L}$  in the Mississippi River at Clinton to 3.2  $\mu\text{g/L}$  in the White River. The range in median concentrations for other herbicides were: cyanazine, <0.2 to 1.9  $\mu\text{g/L}$ ; metolachlor, 0.20 to 1.5  $\mu\text{g/L}$ ; alachlor, <0.05 to 0.73  $\mu\text{g/L}$ ; and simazine, <0.05 to 0.17  $\mu\text{g/L}$ . The largest herbicide concentrations occurred in the smaller tributaries--White River in Indiana, Illinois River, and the Platte River.

Herbicide concentrations began to increase in early- to mid-May in response to rainfall after herbicides were applied to cropland. Maximum concentrations measured for atrazine were 6.3 to 10  $\mu\text{g/L}$  for the smaller tributaries, and 3.7 to 5.7  $\mu\text{g/L}$  in samples from the lower Mississippi and Missouri Rivers. Maximum concentrations measured for cyanazine, metolachlor, and alachlor were 7.3, 4.4, and 3.6  $\mu\text{g/L}$ , respectively. These concentrations persisted for several weeks and began to decrease in early to mid-June.

Two herbicides, atrazine and alachlor, occasionally exceeded maximum contaminant levels for drinking water. Atrazine exceeded the MCL in 27 percent of the samples and alachlor in 4 percent of the samples. Atrazine exceeded the 3  $\mu\text{g/L}$  MCL in samples from the smaller tributaries from mid-May to mid-June, and in samples from the lower Missouri during all of June. Atrazine also exceeded the MCL in samples from the Mississippi River at Thebes, Ill., during part of May and part of June. Atrazine exceeded the MCL in 1 sample collected from the Mississippi River at Baton Rouge, La. Alachlor exceeded the 2  $\mu\text{g/L}$  MCL in a few samples, but only in the smaller tributaries.

Mass-transport calculations were made for atrazine to determine the predominant source area. These calculations indicate that about 37 percent of the atrazine discharged from the Mississippi River into the Gulf of Mexico entered the river from streams draining Iowa and Illinois. The second largest source area was the Missouri River basin, which contributed about 25 percent of the atrazine. The atrazine discharged from the Mississippi River basin during April, May, and June 1991 was estimated to be 517,000 pounds and was equal to about 0.9 percent of the amount applied in 12 major crop-producing States that drain to the Mississippi River.

Nitrate-nitrogen concentrations in the smaller tributaries increased slightly in response to rainfall, but did not have the same response that was observed for herbicides. The maximum concentration measured in any sample was 6.4 mg/L in a sample from the Illinois River. The maximum concentrations measured on the Mississippi River main stem were 3.8 mg/L at Clinton, Iowa, and 5.1 mg/L at Thebes, Ill. Nitrate concentration did not exceed the MCL in any sample. A major source for nitrate-nitrogen in the upper Mississippi appears to be discharge from streams in Iowa and Illinois.

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Draft Amendments to the Clean Water Act

This legislation would amend §319 of the Clean Water Act, 33 U.S.C. §1329, to require states, in developing non-point source management programs, to take into consideration non-point source pollution which contributes to downstream exceedances of Maximum Contaminant Levels (MCLs) established under the Safe Drinking Water Act.

Section 319(a)(1) is amended to read as follows:

The Governor of each State shall, after notice and opportunity for public comment, prepare and submit to the Administrator for approval, a report which -

(A) identifies those navigable waters within the State which, without additional action to control non-point sources of pollution, cannot reasonably be expected to attain or maintain applicable water quality standards or the goals and requirements of this Act;

(B) identifies those navigable waters which serve as source waters for drinking water and which, without additional action to control non-point source pollution, will result in downstream public water systems being unable to meet Maximum Contaminant Levels established under the Safe Drinking Water Act. 42 U.S.C. -----

(C) identify those categories and subcategories of non-point sources or, where appropriate, particular non-point sources which add significant pollution to each portion of the navigable waters identified under subparagraph (A) above, in amounts which contribute to such point not meeting applicable water quality standards or such goals and requirement;

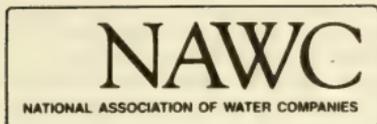
(D) for each portion of the navigable waters identified under subparagraph (B) above, identify those categories and subcategories of non-point sources or where appropriate particular non-point sources

which cause or contribute to downstream public water systems being unable to meet maximum contaminant levels established under the Safe Drinking Water Act, 42 U.S.C. 300f et. seq.

Section 319(b) (2) (A) is amended to read as follows:

(2) Each management program proposed for implementation under this subsection shall include each of the following:

(A) An identification of the best management practices and measures which will be undertaken to reduce pollutant loadings resulting from each category, subcategory, or particular non-point source designated under paragraph (1)(C) and (D) above taking into account the impact of the practice on ground water quality and drinking water quality. Such practices and measures shall specifically address reduction of pollutants which contribute to downstream public water systems being unable to meet maximum contaminant levels established under the Safe Drinking Water Act, 42 U.S.C. 300f et. seq.



JAMES B. GROFF, EXECUTIVE DIRECTOR

TESTIMONY OF  
THE NATIONAL ASSOCIATION OF WATER COMPANIES  
BEFORE  
THE SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT  
CONCERNING  
REAUTHORIZATION OF THE FEDERAL WATER POLLUTION CONTROL ACT  
PRESENTED BY  
J. JAMES BARR, VICE PRESIDENT AND CHIEF FINANCIAL OFFICER  
AMERICAN WATER WORKS COMPANY

APRIL 21, 1993

Good morning Mr. Chairman. My name is Jim Barr. I am Vice President and Chief Financial Officer of the American Water Works Company. American is the largest investor-owned water utility in the country, serving over 5 million people in 606 communities in 20 states.

I am also Chairman of the Board of the National Association of Water Companies. The National Association of Water Companies (NAWC) is the trade association representing the nation's investor-owned water utilities. Its 360 members in 41 states provide safe, reliable drinking water to over 22 million Americans every day. Our member companies provide service from Pine Bluff, Arkansas to Chattanooga, Tennessee and from San Jose, California to Marion, Ohio. Our members employ a combined work force in excess of 15,000. In 1991, these companies had operating revenues of \$2.3 billion and gross utility plant of \$9 billion. Shares in 18 of our largest member companies are publicly traded. Ten of our companies also provide wastewater service to 350,000 persons nationwide.

Mr. Chairman, I applaud your leadership in holding this series of hearings on the Clean Water Act (CWA). My company and other NAWC members, some of whom own or operate wastewater treatment facilities, are directly affected by the requirements of this Act. The experience of these companies demonstrates that the private sector can play a role in the provision of wastewater services. We believe the private sector can - and should be encouraged to - play a larger role in providing wastewater treatment facilities. Changes to the Clean Water Act to affect this end will be the main focus of my statement today. I will also touch on the need to strengthen section 319, concerning non-point source pollution, to recognize protection of drinking water supplies.

#### Encouragement of Public-Private Partnerships in the Provision of Wastewater Treatment Facilities

The goals of the Clean Water Act are to eliminate the discharge of pollutants into navigable waters and attain waters deemed fishable and swimmable. While these goals have not yet been achieved, 75 percent of assessed waters do comply with standards for conventional pollutants. This success was not cheap. Since 1972, Congress has provided \$57 billion in grants for the construction of treatment works and authorized another \$8.4 billion for the state revolving fund (SRF) program which replaced the grant program in 1987.

But the need for funds remains great. In its 1988 needs survey, the EPA estimated total construction needs at \$83.5 billion through 2008. At current levels, the SRF will meet only 31 percent of States' wastewater treatment needs by 2001. This percentage will actually be reduced through competition for SRF monies from the

National Estuaries Program, non-point source pollution control and other worthy programs.

In addition, these needs come during a time when the demand for scarce federal resources is fierce and growing. This limits the ability of the federal government to provide additional funds for any programs under the Clean Water Act. Making the private sector a partner in the provision of wastewater treatment facilities is one way additional resources can be raised to address these needs. I recommend two changes to the Act that will facilitate the ability of the private sector to invest in wastewater treatment facilities.

First, the Clean Water Act should be modified to encourage the establishment of public-private partnerships to construct and manage treatment works. Under current law (section 601(a)(1)), SRF funds are only available for treatment works which are publicly owned. Modifying this section to permit SRF monies to be used in conjunction with private funds could leverage additional monies which will help close the need gap described above and free-up more funds for other important programs authorized under the Act.

Such a program is not without precedent. The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), permits up to 50 percent of the funds for construction of toll roads to come from the highway trust fund. This Committee's report on this provision makes reference to water and sewer infrastructure as follows: "the public-private partnership is important and should be encouraged. From the Federal perspective, one of the ways to approach infrastructure improvement would be to ease unnecessary Federal constraints preventing the mixing of Federal dollars with private funds on projects". The Committee looked to the private sector not only to "bring new sources of capital to infrastructure projects" but also to "expedite the completion of projects with the efficiencies of the private sector".<sup>1</sup>

A fully privatized wastewater treatment plant in Auburn, Alabama, supports the Committee's contention. According to EPA, the plant saved the city \$25 million in costs over the life of the project and enabled the facility to go on line in one-quarter of the time of similar, non-privatized facilities.

As with the ISTEA toll road provision, using SRF funds to finance public-private partnerships would not be a requirement of the Act. Rather it would be an option available to state and local governments as a method to leverage additional funds for treatment plant construction. At Appendix A you will find a paper describing how such a program might be structured.

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<sup>1</sup> House Committee on Public Works and Transportation; House Report No. 102-171(I); July 26, 1991; pgs. 13-24.

Second, a definition of a "publicly-owned treatment work" should be added to the Clean Water Act. Such a definition should be based on purpose rather than ownership. The Safe Drinking Water Act (SDWA) clearly defines drinking water systems by purpose rather than ownership.<sup>2</sup> This provides for uniform environmental regulation of a drinking water system whether owned by one of our member companies or a municipality.

In contrast, the Clean Water Act does not define a "publicly-owned treatment work" (POTW). It does acknowledge the existence of privately owned treatment works in section 201(h) and EPA regulations have recognized a distinction. Under regulatory treatment, this is a distinction with a difference.

For example, a privately-owned wastewater treatment facility loses the domestic sewage exclusion provided to POTWs under the Resource Conservation and Recovery Act (RCRA). This exclusion exists to avoid duplicative CWA and RCRA permits for the same unit. A private facility is subject to Best Available Technology Economically Available/Best Conventional Pollutant Control Technology requirements, while a public one is subject to secondary treatment requirements. Two very different requirements.

Different requirements based on ownership are required by the Clean Water Act. But they are not necessary to provide clean water. They merely serve as barriers to entry of the private sector and a barrier to the transfer of facilities between private and public ownership. Entirely different requirements would apply to a treatment facility sold by a municipality to a private investor, even though the purpose of the facility and its customer base remain unchanged.

I strongly urge the Committee to amend the Clean Water Act to provide a single and clear definition of a wastewater treatment facility based on purpose rather than ownership. Such a change will provide uniform regulations for all such facilities. This in turn will provide local governments the flexibility to make arrangements for the provision of wastewater services that meet local needs. A single definition of a treatment facility based on purpose allows for a facility that is 100 percent publicly-owned,

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<sup>2</sup> Section 1401(4) of the Safe Drinking Water Act reads: "The term "public water system" means a system for the provision to the public of piped water for human consumption, if such system has at least fifteen service connections or regularly serves at least twenty-five individuals. Such term includes (A) any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system, and (B) any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system."

100 percent privately-owned or any percentage in between.

### Non-Point Source Pollution

America's drinking water suppliers are the nation's front-line environmentalists. Long before enactment of the Safe Drinking Water Act, water suppliers took steps to ensure the safety and quality of drinking water. Disinfection of drinking water to kill microbial contaminants, hailed as the greatest benefit to public health this century, has been routine for almost 100 years. Our historical commitment to protecting the public health continues to this day with our support of and compliance with the stringent requirements of the Safe Drinking Water Act.

But compliance is not cheap. Over the course of this decade, EPA estimates water suppliers will have to invest \$2.5 billion a year to comply with SDWA requirements. This is in addition to an annual investment of \$10 billion for maintenance, expansion and improvement of drinking water infrastructure. We and our customers are naturally eager to keep these costs as low as practicable. One way this can be done is by enhancing the protection of drinking water supplies.

As stated above, the Clean Water Act has as its goal fishable and swimmable waters. Great steps have been taken towards this end, yet every year billions of tons of pollutants find their way to both surface and groundwater, largely through run-off from non-point pollution sources. The largest source of non-point pollution is pesticide, fertilizer and animal waste run-off from farms.

The federal government regulates "both ends of the pipe"; drinking water quality through the Safe Drinking Water Act, pesticide and fertilizer application through the Federal Insecticide, Fungicide and Rodenticide Act. These acts should be complimentary. In other words, when a drinking water standard is set by the federal government, it should not at the same time bless activities which are likely to lead to violation of those standards. The left and right hands must work in concert.

The Safe Drinking Water Act regulation governing pesticides and nitrates became effective on January 1, 1993. If monitoring reveals pesticides or nitrates at levels exceeding the prescribed MCL, drinking water systems will have to install facilities for their removal.

This is no idle concern. Two years ago, the Missouri River Public Water Supplies Association performed a monitoring study to determine pesticide levels in this mighty river. It found atrazine

at levels above the maximum contaminant level (MCL) established under the SDWA. A subsequent study by the US Geological Survey (USGS) confirmed these findings. Both of these studies may be found at Appendix B.<sup>3</sup>

Should average pesticide levels exceed the MCL, systems will have to install granular activated carbon (GAC) to treat the water and comply with the MCL. A large utility in Missouri serving a million persons has estimated that financing the installation of GAC will require a 70 percent rate increase! Nitrates pose a similar problem; their treatment can cause significant cost increases as well.

These costs should not be borne by our customers when they can be avoided. Section 319 of the Clean Water Act provides for the establishment of state plans to reduce non-point source pollution. But these plans only apply to water quality standards issued under the Clean Water Act. I recommend that section 319 (a) and (b) be modified to recognize the protection of drinking water quality as a goal of state non-point source management programs. You will find proposed bill language at Appendix C.

In Putting People First, President Clinton calls for stronger non-point source standards. He also advocates placing "greater emphasis on preventing and reducing pollution before it happens, so we won't have to spend so much on cleaning it up after the fact". Finally, he states polluters should pay. Our proposed changes to section 319 conform with these policy goals.

### Conclusion

The changes described above will help produce a more effective and efficient Clean Water Act. This will hasten the achievement of its worthy goals - fishable and swimmable waters. Adoption of our amendments will also make compliance with SDWA requirements easier.

We appreciate this opportunity to provide testimony on the Clean Water Act and look forward to working with you on these issues during reauthorization. Please feel free to contact the NAWC if you require additional information on any of these items.

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<sup>3</sup> The USGS is also gathering additional water quality data over the remainder of the decade. Its National Water Quality Assessment Program will perform intensive assessment activity in 60 study areas. Twenty four-year studies began in FY91 with an additional twenty to begin each in FY94 and FY97. Upon completion, these studies will provide invaluable data to our member companies concerning pollution levels and sources nationwide.

# REAUTHORIZATION OF THE FEDERAL WATER POLLUTION CONTROL ACT

THURSDAY, APRIL 22, 1993

HOUSE OF REPRESENTATIVES, SUBCOMMITTEE ON WATER  
RESOURCES AND ENVIRONMENT, COMMITTEE ON PUBLIC  
WORKS AND TRANSPORTATION,

*Washington, DC.*

The subcommittee met, pursuant to recess, at 9:51 a.m. in room 2167, Rayburn House Office Building, Hon. Douglas Applegate (chairman of the subcommittee) presiding.

Mr. APPLEGATE. Good morning.

This morning, we will continue our hearings on the issues concerning the reauthorization of the Clean Water Act. At yesterday's hearing, we received a great deal of good testimony from Members of Congress. Today, we are going to hear from representatives of environmental and agricultural organizations on the issues of concern to each of these groups.

Following today's hearing, the subcommittee will meet again on Wednesday, May 5th, to receive testimony from Carol Browner, who is administrator of the Environmental Protection Agency, as well as representatives from the U.S. Army and the Tennessee Valley Authority.

Before we begin with our first panel, I would like to yield to our substitute for Mr. Boehlert, the ranking minority member of the Subcommittee, Susan Molinari.

Ms. MOLINARI. Thank you very much, Mr. Chairman. I join you in welcoming our guests to this hearing today. Congressman Boehlert will be along shortly.

It is appropriate that we discuss the Clean Water Act on Earth Day. The Clean Water Act has been a success story since it was enacted in 1972 and will likely be the most important piece of environmental legislation enacted this Congress. The act is an example of responsible environmental policy, policy that balances the needs of the environment and industry in an effort to make the earth a better, safer place for all of us.

In 1993 the rivers are no longer catching fire. Here in Washington, the Potomac is once again a center for recreation. People are boating and fishing on it instead of trying to walk across it. We have made significant improvements, yet the Clean Water Act's goal of fishable and swimmable waters is not there. When you come from a district such as mine in Staten Island, New York, we became a national landmark several years ago when the outfall of combined sewers washed up on our beaches on a daily basis. Clean water takes on an even deeper meaning.

I am delighted to be with you today to continue to work on the Clean Water Act. The witnesses before us today come from the agricultural community and the environmental community and will be instrumental in the amendment process. I want to assure our witnesses that we will listen to your testimony and seek your advice as the issues are hashed out.

Mr. Chairman, Earth Day must be more than just a free concert and trite phrases. To be successful, Earth Day must be a day when we carefully reflect on our Nation's environmental policies, a day when we examine what we can realistically expect to accomplish in the next five years, a day to ask ourselves what the next step should be.

I thank the witnesses for joining us today so we can make this Earth Day hopefully a memorable one. I also ask at this point in time that I be allowed to submit a statement from the ranking member of the full committee, Congressman Shuster.

Mr. APPLEGATE. Without objection, Congressman Shuster's statement will be included in the record.

[Mr. Shuster's prepared statement follows:]

HONORABLE BUD SHUSTER  
CLEAN WATER ACT REAUTHORIZATION  
SUBCOMMITTEE ON WATER RESOURCES  
AND ENVIRONMENT  
APRIL 22, 1993

Today we continue the Subcommittee's series of hearings on reauthorization of the Clean Water Act.

Since the enactment in 1972 of the Federal Water Pollution Control Act (today known as the Clean Water Act), this country has made significant progress in protecting and improving the quality of our waters.

We have made tremendous strides in addressing point source pollution from municipal wastewater treatment facilities and industrial plants. Based on waters assessed, states report that 70 percent of our rivers, 60 percent of our lakes, and 64 percent of our estuaries are currently supporting designated uses. Some of these waters remain threatened by pollution, however, and other waters are impaired or are not fully meeting designated uses. Accordingly, we as a nation have a great deal more work to do in protecting our precious water resources.

Our hearings are intended to give the Subcommittee a sense of how well the Act is working and what changes may be needed. Thus far we have focused on the needs of state and local governments, and particularly the needs of small and rural communities.

Yesterday, we also heard from a number of House Members who testified on important national, regional and local issues for consideration by the Committee. Later this spring we will also hear from the Administration, industry, the development community, and other affected interest groups.

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Today, we will hear from representatives of the environmental and agricultural community. As a consequence, we will touch upon virtually all of the major issues that must be considered by the Committee.

I want to thank all of the witnesses for their testimony but in particular, Keith Eckel from the Pennsylvania Farm Bureau Federation for his valued testimony on behalf of the American Farm Bureau. Keith will touch upon two issues which are vitally important to me -- reform of the current morass of wetlands laws and regulations and improved but sensible measures to control non-point source pollution.

I am sure the Members of the Subcommittee will benefit as I will from Mr. Eckel's insights into these and other issues before the Committee.

Mr. APPLEGATE. Okay. First of all, we are going to have two panels. The first panel will be comprised of the environmental witnesses. We have Robert Adler with the Natural Resources Defense Council, Brett Hulseley from the Sierra Club, Doug Inkley from the National Wildlife Federation, Dawn Martin from the American Oceans Campaign, Carolyn Hartmann with U.S. Public Interest Research Group, and Diane Cameron from the Natural Resources Defense Council.

Let me just say before we get started because this could get into a very long day, all statements will be made a part of the record. We would ask that perhaps you summarize as best you can because we will have your full statements and they will all be considered in our work as we move forward. I would like to have the members know that we would like to stick to the five minute rule. I think in this way we will be able to expedite time and get the information that we need.

Mr. Adler?

**TESTIMONY OF ROBERT W. ADLER, SENIOR ATTORNEY, NATURAL RESOURCES DEFENSE COUNCIL, INC.; BRETT HULSEY, GREAT LAKES PROGRAM DIRECTOR, SIERRA CLUB; DOUG INKLEY, LEGISLATIVE REPRESENTATIVE, NATIONAL WILDLIFE FEDERATION, ACCOMPANIED BY STEPHANIE GROGAN AND TERRY SCHLEY; DAWN MARTIN, ISSUES DIRECTOR, AMERICAN OCEANS CAMPAIGN; CAROLYN HARTMANN, STAFF ATTORNEY, U.S. PUBLIC INTEREST RESEARCH GROUP; AND DIANE CAMERON, SENIOR RESEARCH ASSOCIATE, NATURAL RESOURCES DEFENSE COUNCIL**

Mr. ADLER. Thank you very much, Mr. Chairman and members of the subcommittee. It is a pleasure to be here today.

We have put together a panel of witnesses who will address the full range of Clean Water Act issues that the subcommittee will be facing this year. The panel was put together by the Clean Water Network, which is a coalition of more than 400 organizations all around the country who are working together to work on Clean Water Act reauthorization and to ask this subcommittee to strengthen the law. These groups have all endorsed a document called "A National Agenda for Clean Water" and I ask that, in addition to my full testimony, a copy of the agenda, a list of the endorsing groups, and a briefing book on reauthorization that we've provided to members of the committee be put into the record as well.

Mr. APPLEGATE. Without objection, so ordered.

Mr. ADLER. Thank you.

Earlier this month the subcommittee heard from panels of witnesses who focused on the economic price of water pollution control. But little was said about the serious human health, environmental harm, and harm to our economy that is caused by continuing water pollution. So while I will defer to my colleagues to talk about specific programs and specific solutions, I would like to begin by assessing the state of our aquatic resources two decades after the Clean Water Act was passed in 1972. What the public wants to know is not how many permits have been written, but basic questions like Ms. Molinari asked: How safe are our beaches for

swimming? How safe is our drinking water? How are our populations of aquatic organisms faring and are they safe to eat?

Let me begin first by looking at the traditional measures of water pollution looked at by EPA and the States. According to EPA's most recent national inventory, at least one-third of our assessed rivers, half of our assessed estuaries, and more than half of our assessed lakes are not meeting designated uses, are not meeting the water quality standards that we sought to achieve by 1983. Even these reports are incomplete because only a fraction of our waters are actually tested for water pollution, so we don't really know the full scope of the problem.

Now I do not mean to suggest that the Clean Water Act has not worked. We have made tremendous progress; we simply have a longer way to go. The percent of the U.S. population served by secondary treatment or better has more than doubled in 20 years. Industrial pollution controls have reduced the discharge of toxic pollution by a billion pounds a year, according to EPA estimates. But when you look at the numbers, industrial sources continue to release hundreds of millions of pounds of toxic pollutants a year into our surface waters and the discharge of raw or partially treated sewage continues unabated in many waters around the country.

Again, I want to focus on real world measures of progress and the health and environmental threats faced by the American public. Many waters remain unsafe for swimming, not just in New York and Staten Island but around the country. In 1991, there were more than 2,000 beach closures or advisories around the country, and, again, that is based on only partial monitoring. Many beach waters simply aren't tested for pollution. State water quality reports confirm that a quarter of our rivers and estuaries, one-fifth of our lakes, and at least 10 percent of our coastal beaches are unsafe for swimming.

Many drinking water supplies remain contaminated. The events of Milwaukee a few weeks ago underscore the problem, but let me underscore that this is not an isolated problem. According to the Centers for Disease Control, there were more than 525 outbreaks of disease caused by drinking water supplies since the Clean Water Act was passed, affecting more than 130,000 people. Again, this is only the tip of the iceberg. EPA experts believe that 25 times as many drinking water-related outbreaks are caused than are actually reported.

Many sources of fish and shellfish remain contaminated. Forty-five States recorded almost a thousand fishing advisories and bans in the two-year period of 1988-89. But if you look at EPA's database, there are actually about 3,000 fishing bans and advisories in place today around the country, and, again, only a fraction of our waters are actually tested for toxic pollutants.

The second fundamental measure is the health of our aquatic ecosystems. Again we find serious trouble, as our aquatic species are in serious jeopardy. We have heard a lot about spotted owls and red squirrels and other land-based animals, and without intending to minimize the threats to those species, our aquatic species are faring far worse. According to the Nature Conservancy, while about 10 to 15 percent of land-based species are threatened or endangered or otherwise in peril, those figures are a third of our

fish species to 73 percent of our fresh water mussels; a third to three-quarters of aquatic species are in trouble.

Even species that are not directly threatened or endangered are plummeting, especially when you look at important commercial species. From 1970 to 1989, spiny lobster harvest dropped by 34 percent, commercial landings of striped bass declined continuously since 1973, with a total fall of 92 percent since 1982. From 1983 to 1989, bay scallop landings fell by 88 percent. Duck breeding populations have dropped continually from 1955 to 1985. The list goes on and on.

We thought that serious fish kills were a thing of the past with the passage of the 1972 Clean Water Act. And while EPA data show that the severity of each incident is going down, for which we can take credit, the number of pollution caused fish kills per year has not gone down. Even pollution that doesn't actually kill fish is causing severe impacts on the reproductive systems of our aquatic organisms, birth defects, behavioral changes, and increased susceptibility to disease, impacts that we face as well when we eat those fish and wildlife.

The cause of these serious declines in aquatic species is predominantly habitat loss and pollution. We have lost more than half of our wetlands, we've lost more than half of our riparian habitat, our streamside habitat. According to the 1984 Fisheries survey, 81 percent of our instream habitat is degraded and less than 4 percent of our waters are completely healthy.

To close, I want to emphasize that these are not just health and environmental impacts, they are serious economic impacts to the U.S. economy as well. Let's look at the value of water resources to our economy. In 1990, commercial fisheries contributed \$16.5 billion to the U.S. economy. In 1988, there were more than 360,000 people employed by our commercial fishing industry. Protecting clean water is critical to protecting those jobs. Recreational fishers spent more than \$28 billion in 1985 on their sport, shell fishers, another \$2.5 billion; water fowl hunters, almost another \$1 billion. The boating industry contributes about \$20 billion a year to our economy, an economy depending on clean water, and employs about 600,000 people. Florida beach-goers alone contributed \$2.5 billion to the Florida economy in 1984. Those economies and those jobs are jeopardized if we don't protect our water resources. I am not meaning to suggest that we can completely capture the economic value of water resources in dollars. Resources for the Future economists tried to do so and estimated the value of the national swimmable goal alone at \$30 to \$47 billion a year.

The point, Mr. Chairman and members of the subcommittee, is that we can't just look at the cost of cleaning up our waters. We have to look at the value of those waters to the human environment, our health and our economy. In his book "Earth in the Balance", Vice President Gore quoted Oscar Wilde as saying "A cynic is one who knows the cost of everything and the value of nothing." It is easy to dwell on the cost of water pollution control and the cost of cleaning up those waters while forgetting the tremendous value of those resources not just to our environment and our health, but to our economy as well.

We look forward to working with the subcommittee in the next few months to try to solve these many problems. Thank you.

Mr. APPLGATE. Thank you, Mr. Adler.

What we are going to do is run right through the panel first and then we will get down to asking some questions.

Mr. Hulsey.

Mr. HULSEY. Thank you, Mr. Chairman.

My name is Brett Hulsey and I am the Sierra Club's Great Lakes Program Director. I am testifying today on behalf of the Sierra Club and a whole host of Great Lakes and national groups to urge a comprehensive program to clean up contaminated sediments that line our harbors and stop additional toxic pollution from sullyng our waters.

For those of us who live in Wisconsin and who have witnessed the tragedy in Milwaukee, the need for clean water is clear. In the past few weeks, we have seen thousands of people sick and missing work and 800,000 people who were not to safely drink their water. We have seen several elderly people and people with AIDS die or are critically ill from the contaminated water. Schools and businesses were forced to close. The public in Wisconsin and throughout much of the country has lost their faith in clean water.

While this problem may have stemmed from nonpoint pollution, we feel it is a growing concern for everyone who depends on the Great Lakes for their water. We urge you to address nonpoint pollution, and I think someone else is going to talk about that.

I will use the Great Lakes as an example because 25 million Americans drink from the Great Lakes everyday and their faith in their daily water supply is important.

The Great Lakes is a hub for much of the industry of the United States. Yet this economy that circulates around the Great Lakes is threatened. Currently, PCB levels in Great Lakes coho salmon exceeds 70 times the EPA's 1/100,000 cancer risk level. The Great Lakes are not safe. About two-thirds of the Great Lakes are not safe for fishing and swimming according to EPA's water quality advisory. This is largely because current water, air, and waste laws allow polluters to continue to dilute toxins and emit them in large quantities.

In 1990, according to the U.S. General Accounting Office, Great Lakes polluters were legally allowed to dump over 7 million gallons of oil, 89,000 pounds of lead, almost a ton of PCBs, and almost a thousand pounds of mercury into the Lakes. To put this into perspective, the Exxon Valdez illegally dumped 11 million gallons of oil into Alaska waters and was fined almost \$1 billion. Each year, U.S. industries are allowed to dump two-thirds of that amount into the water supply of 25 million Americans.

Scientific evidence shows that this is of major concern. EPA risk assessment shows that over 38,000 people may die from cancer from eating Great Lakes fish. A study out yesterday indicating the link between DDT and breast cancer, it is important to note that in the Great Lakes DDT is found in many of these fish and continues to be cycled through the sediments that line our harbors. There are numerous other health effects associated with pollution in the Great Lakes including unborn children being threatened with premature birth, low birth weights, and impaired learning loss.

Currently the Great Lakes States employ a hodgepodge of environmental regulations to try to stop this pollution. For instance, according to one study, a plant that could emit 4 pounds of mercury in Wisconsin would be allowed to emit 55 pounds of mercury in Ohio, 99 pounds in Illinois, and 323 pounds in New York. This also puts industries at a disadvantage, especially in Wisconsin, Minnesota, and Michigan that tend to have tougher regulations, because States tend to compete for jobs by lowering their water pollution standards rather than trying to provide a healthy education to workers.

So what must we do to deal with this problem? We urge the phase-out of persistent toxins like mercury and PCBs to make our water safe. To do this, we need to give the EPA Administrator authority to phase out these under the MPDES program. We need to make pollution prevention a major part of the Clean Water Act because, as we have seen in many cases, a few thousand or hundred thousand dollars worth of prevention can save millions of dollars in clean up cost. We need to use the best available technology and give the EPA Administrator the right to set fees and consistent water quality standards that protect the public. We must go beyond protecting the average person, we must protect people who rely on water for their livelihood, like Native American urban fishers, as well as wildlife, like bald eagles and mink. Bald eagles currently are experiencing reproductive failure along the Great Lakes for consuming Great Lakes fish, similar problems that we have seen exhibited in people.

We would like to see Lake Superior designated an outstanding natural resource water to show that we can achieve zero discharge someplace in the United States. Lake Superior is our best place to do that. Also, we would urge you to take a look at the EPA's recently released Great Lakes Water Quality Guidance as a model for how to achieve this in a large-scale area.

In addition to cleaning up point sources though, we have a huge problem with existing toxic pollutants in the Great Lakes and the Nation's waters. This chart is a result of NOAA and EPA data that show that every major water body in the U.S. likely has moderate to severe contaminated sediments lying at the bottom of it. You can see that while this doesn't include inland waterways, there are also significant sediment problems along the Ohio and Mississippi River as well. We have seen this exhibited particularly in areas like New York/New Jersey harbor that is currently trying to work out a negotiation on how to deal with their sediments. According to the EPA Water Quality Advisory, Ohio leads the Nation with 193 sites clogged with contaminants like arsenic, cadmium, and lead. In Lake Michigan, about 75 percent of the PCBs that pollute our fish come from contaminated sediments. And according to the EPA, landfills and contaminated sediments are the leading sources impairing our Great Lakes.

This is a huge problem that we began to address in the 1987 amendments with the ARCS program, the Assessment and Remediation of Contaminated Sediments. Under this program, we have tested about ten technologies and assessed five sites throughout the Great Lakes and have some very promising information on how to clean up these sediments in a cost-effective manner. We urge

you to look at this approach as a model to be applied to salt water coasts and other parts of the Nation.

The National Contaminated Sediments Working Group has been working with the EPA, the ports, and the Corps of Engineers to come up with a national comprehensive plan to deal with these sediments. We urge you to develop a national program with deadlines and funding to clean up contaminated sediments and that has sediment quality criteria to ensure they are cleaned up, use technologies developed by EPA's ARCS program and expand those technologies to other areas including salt water sites; we clearly need some marine demonstration sites, perhaps New York/New Jersey harbor would be an excellent place to start; make pollution prevention part of each sediment disposal permit to ensure that the amount of new pollutants going into the area is minimized; and also to strengthen and enact the Metzenbaum Great Lakes Sediment Control Act to set up a structure to reduce new sediments coming into the areas and reduce dredging costs.

In conclusion, this year's Clean Water Act gives us an opportunity to stop the additional persistent pollutants that are poisoning our fish, our water, and our wildlife and to clean up existing sorts. We urge these principles to guide your Clean Water Act reauthorization and restore our faith in America's waters.

Thank you.

Mr. APPLGATE. Thank you very much, Mr. Hulseley.

Mr. Inkley.

Mr. INKLEY. Thank you, Mr. Chairman, members of the subcommittee. I have the somewhat daunting task today of presenting to you the National Wildlife Federation's legislative recommendations to correct the problems with the Clean Water Act, and also, as chairman of the Wetlands Working Group for the Clean Water Network, to present to you our concerns about the inadequacies of the section 404 program for wetlands protection. Before commencing, I would like to first mention that accompanying me today are two NWF staff and Clean Water Act experts who would also be happy to field questions during the question and answer period. They are Ms. Stephanie Grogan and Ms. Terry Schley.

Very briefly this morning what I would like to do is address four issues.

Issue one, prevention of food chain contamination. Toxic chemical contamination of the Nation's waters remains a very serious threat to the health of people and wildlife. For example, EPA data indicate that health advisories, warnings, or bans on eating fish are in place in over 4,000 bodies of water in 46 of the 50 States. Tragically, children born to women who ate moderate to high amounts of PCB contaminated Lake Michigan fish have now performed significantly worse on tests of their visual and verbal memory skills.

To address these problems of toxic chemical contamination Congress should amend the Clean Water Act to immediately implement the sunseting of the most dangerous chemicals, with priority given to those chemical that bio-accumulate.

Issue two, keeping clean waters clean. Conservation of clean waters have been relatively neglected while much attention has been focused on cleaning up of polluted waters. The Clean Water Act should be amended to protect from degradation existing water

quality by preventing new or increased sources of pollution. The designation of outstanding national resource waters should be implemented with absolute protection from new or increased pollution.

Issue number three is water conservation. Amendments to the Clean Water Act which require and encourage water conservation can significantly reduce the cost of wastewater treatment while effectively helping to protect our Nation's water resources and aquatic resources. We urge Congress to enact minimum water conservation standards for new or expanded water and wastewater systems.

Issue four is wetlands conservation. Wetlands conservation is very important to the National Wildlife Federation and also to member organizations of the Clean Water Network. The genesis of our concern is the enormous loss of the Nation's wetlands, some 100 million acres of wetlands to date or more than half that once existed in the 48 States. The loss continues today at unacceptable rates. I refer the subcommittee to Table I at the back of my testimony wherein the percent loss of wetlands for each of your States is given.

Mr. Chairman, you personally have the opportunity as chairman of this subcommittee to help mold the future of wetlands protection for Ohio and the rest of the Nation. I am one of those "home folks" that you referred to in your opening remarks as I am also from the State of Ohio. Unfortunately, our home State has suffered a 90 percent loss of wetlands, second only to California in the Nation.

Concurrent with the loss of wetlands is the loss of the enumerable benefits that they provide. One of the most important wetland benefits is jobs. For example, in Louisiana over 30,000 jobs are linked to the commercial and sport fishing industry which is closely linked to wetlands. Loss of wetlands ultimately means billions of dollars in higher taxes as well, higher taxes to pay for water treatment facilities, higher taxes to pay for flood control. For example, the Boston Globe reported that elimination of protection from just the drier end wetlands alone would force communities—in other words, taxpayers—to spend up to \$75 billion new dollars for water treatment facilities. In another example, a Corps study has revealed that losses of all wetlands associated with the Charles River near Boston could result in \$17 million in annual flood damage downstream.

Wetlands also provide critical fish and wildlife habitat, especially for waterfowl and also for 43 percent of this Nation's threatened and endangered species.

In conclusion, to address the continued loss of wetlands, we urge that Congress amend section 404 of the Clean Water Act with strengthening amendments. Specifically, we urge you to close the regulatory loopholes so that all causes of wetlands destruction will finally be regulated. We also urge you to make the permitting process more efficient by adopting a fast-tracking permit process for small scale permits. These concepts, and others as well, are all embodied in H.R. 350, the Wetlands Reform Act, introduced by Congressman Don Edwards of California. We strongly endorse this bill. We see it as a balanced solution to the section 404 wetlands regulatory program debate.

This completes my remarks, Mr. Chairman. I look forward to your questions. Thank you very much for the opportunity to testify.

Mr. APPLGATE. Thank you very much, Mr. Inkley.

Ms. Martin.

Ms. MARTIN. Good morning. Thank you to Chairman Applegate and the other members of the committee for inviting us here today. My name is Dawn Martin and I am the Issues Director for American Oceans Campaign and the coordinator of the National Coastal Caucus. My comments are on their behalf and that of the American Planning Association and Coast Alliance.

Since the original Clean Water Act was signed into law, Congress has consistently strengthened protections for our coasts. But with this reauthorization, we believe the critical state of our Nation's aquatic ecosystems demand even stricter protections be imposed.

A recent poll found that 80 percent of the U.S. public think protecting the environment is so important that requirements and standards cannot be too high and continuing environmental improvements must be made regardless of the cost. Therefore, we encourage you to reauthorize the Clean Water Act with confidence that the public solidly supports strong and enforceable legislation.

Aquatic ecosystems worldwide are being severely altered or destroyed at a rate greater than at any other time in human history. This is likely due to the fact that historically resource protection was constrained by artificial boundaries such as local or State borders. Today we have clear hydrological and ecological evidence linking successful watershed restoration with broader aquatic ecosystem management strategies.

Another problem is that despite the goal of the Clean Water Act to maintain and restore the physical, chemical, and biological integrity of the Nation's waters, EPA has primarily focused on developing chemically-based water quality criteria without addressing the physical and biological impairments of these waters. It is time for the Clean Water Act to focus on the biological integrity of our Nation's aquatic ecosystems.

According to EPA's most recent national water quality inventory, at least one third of our rivers, half of our estuaries, and more than half of our lakes are not safe for swimming, fishing, and other uses. Research also indicates that aquatic species are threatened and endangered much more so than their terrestrial cousins. Likewise, nearly one third of the native North American fresh water fish species is at risk.

My remarks today will deal with specifically two bills that affect aquatic ecosystems, and those bills we would like to see incorporated into the broader reauthorization of the Clean Water Act. Those bills are H.R. 31, the B.E.A.C.H. bill, and H.R. 1720, the DeLauro-Lowey estuary bill, which I will address respectively.

In 1988 coastal pollution was brought to national attention when medical waste washed up on our shores and sewage spills and polluted runoff posed such health threats as hepatitis and gastroenteritis. Since coastal tourism, recreational activities, and the fishing industry generate billions of dollars annually, it is logical for States to provide consistent health protections for these interests. However, few States conduct water quality testing of their beaches and those that do use different standards that would deem

water safe on one side of the border and unsafe on the other. H.R. 31, sponsored by Representative Hughes, essentially deals with these problems in three important ways.

First, it requires EPA to develop minimum water quality standards for testing coastal recreational waters. Public health will not be protected until there is consistency regarding the threshold beyond which exposure to bacteria is unacceptable.

Secondly, the bill sets minimum monitoring practices to guide States in testing beach waters to ensure that they are safe for swimming. These protocols should be adequate enough to detect even periodic violations of the standards.

And finally, H.R. 31 establishes mandatory public notification procedures when pollution levels are exceeded. The public has a right to know about the safety of their beaches. Closure notices should be posted at all access points and advisories should explain the type of pollution and its known or suspected source.

The second bill is the DeLauro-Lowey Water Pollution Control and Estuary Restoration Financing Act. Estuaries form transition zones between fresh water and marine ecosystems, making them one of the most productive natural systems. However, they are also among the most densely populated areas and, therefore one of the Nation's most highly stressed natural systems.

Recognizing this, Congress authorized the National Estuary Program in 1987. Modeled after the Chesapeake Bay and the Great Lakes Programs, the NEP process includes all relevant international, Federal, State, and local Government agencies, affected industries, educational institutions, and citizens. The purpose of the program is to develop comprehensive conservation and management plans to restore and maintain the chemical, physical, and biological integrity of each estuary. To date, actual implementation of these plans has been stymied by inadequate Federal financial commitment to the program.

Working with citizens groups for the past several years, AOC has gathered comments on the estuary program that were essentially incorporated into the NEP reforms of H.R. 1720. Because of these reforms and its ability to create clean water jobs, the bill has secured the support of several broad based coalitions, including labor unions, professional associations, businesses, construction trade councils, and environmentalists. In addition, the bill strengthens other clean water issues. It increases Federal aid to States for upgrading sewage treatment plants, controlling polluted runoff, and fixing combined sewer overflows. It also ensures full coordination of efforts taken to carry out other requirements of the Clean Water Act and the Coastal Zone Management Act.

But many States and municipalities possess neither the infrastructure nor the financial resources to protect these valuable estuaries. This bill recognizes that investing in healthy estuaries is tantamount to investing in jobs and a healthy economy. It is expected to create up to 1.4 million new jobs.

H.R. 1720 addresses the major weaknesses in the current estuary program in four significant ways. First, section 320 of the Clean Water Act is amended to ensure implementation of management plans. Efficient use of the resources expended in developing the plans necessitates Federal support for implementing them once

they are completed. Deadlines are tightened to ensure that individual participants can't stall the entire process. Secondly, it requires EPA to take on a more aggressive leadership role in assisting the program fulfill its goals. Third, the bill increases citizens input in the development of the plans and requires environmental organizations to participate in the management conference. And finally, it provides funding to ensure that States are given Federal assistance for implementation, enforcement, and monitoring of their plans. Current appropriation levels are severely inadequate to meet growing demands. The bill amends Title VI of the Clean Water Act to increase funding for SRFs to \$4 and then up to \$5 billion per year with a specific set aside for implementation of management plans. Section 320 is also amended to provide grants for innovative projects and interim actions not ordinarily funded through the SRFs.

In summary, the National Estuary Program has done an excellent job in identifying waters of national significance and documenting their problems. However, the program must be strengthened. Proper implementation of the NEP would help address a full range of other coastal pollution issues that impact the economic and environmental health of our communities.

This concludes our testimony. Thank you for soliciting our views, and we appreciate the committee's attention to estuary and aquatic ecosystem protection.

Mr. APPLGATE. Thank you, Ms. Martin.

Ms. Hartmann.

Ms. HARTMANN. Thank you, Mr. Chairman. My name is Carolyn Hartmann. I am a staff attorney with the U.S. Public Interest Research Group, U.S.PIRG. U.S.PIRG is the national lobbying office for State PIRGs with over 1 million members in 30 States.

For over two decades, the PIRGs have fought to clean our waterways. PIRGs have played a key role in helping to pass pollution prevention and toxics use reduction laws, we have filed over 60 Clean Water citizen suits, and helped to pass the New Jersey Clean Water Enforcement Act, the strongest of its kind in the country. We urge Congress to bring the lessons learned at the State level up to the national level.

"Weak and sporadic," this is how a top GAO official described the Clean Water's enforcement program. He went on to say that "despite serious and longstanding violations, most enforcement actions are informal slaps on the wrist." Strong enforcement of the Clean Water Act is fundamental to the success of the program. Unfortunately, studies conducted by the GAO, the EPA's Inspector General's office, environmental groups, and the States show that discharge violations are routinely ignored even for serious and chronic violations.

In addition, economic benefits are often not taken into consideration when penalties for violations are determined. John Martin, EPA Inspector General, testified last Congress that when penalties are reduced to below what it would cost to comply with environmental laws they encourage, rather than deter, noncompliance. Small fines and lengthy time limits to achieve compliance promote a "pay-to-pollute" mentality. The Clean Water enforcement program should be strengthened to create greater incentives to comply

with the law by setting mandatory minimum penalties for serious and chronic violators, prohibiting profits from polluting, and strengthening the reporting and inspection requirements.

The New Jersey Clean Water Enforcement Act contains such provisions. New Jersey has found that under its tougher enforcement program more facilities are attaining compliance. In addition, the average penalty assessed in each formal enforcement action has actually decreased. Because the Act requires the New Jersey Department of Environmental Protection and Energy to conduct more frequent inspections of facilities operated by significant noncompliers, the agency finds violations more quickly and takes timely action. This results in reduced average penalties.

Noncompliance at any given facility must be addressed quickly rather than waiting for patterns of chronic violations to develop. Uniform minimum responses to violations will decrease average penalties assessed and bring violators into compliance more rapidly.

We recommend that State programs be required to establish mandatory minimum penalties for serious violations of and significance noncompliance with the act based on the definitions currently used by the EPA and New Jersey.

The existing Clean Water Act allows economic benefits to be taken into consideration in assessing penalties. Unfortunately, this authority is greatly under utilized. GAO has found that in nearly two out of three penalty cases in EPA programs, there was no evidence that economic benefits had been calculated or assessed. We believe that the penalty should not be less than the economic gain realized by the polluter; otherwise, it pays to pollute.

Access to accurate and consistent reporting is fundamental to the success of the Clean Water Act. To improve access to discharge reporting, Congress should amend the Clean Water Act to require all facilities discharging to ground water, surface waters, or treatment works facilities to submit discharge monitoring reports on a monthly basis.

In addition, Congress should amend the act to require that permitted facilities be inspected once a year and that the inspection should, at a minimum, include a review of housekeeping measures, sampling techniques, maintenance records, and independent sampling of the permittee's effluent. New Jersey has implemented this improved inspection program and has credited it with bringing compliance up and average penalties down.

We also recommend that Congress remove current obstacles to citizen suits. Citizen suits are a tried and true method of bringing polluters into compliance with the act. Unfortunately, a 1987 Supreme Court case, *Gwaltney*, seriously weakened the deterrent effect of citizen suits. The result of *Gwaltney* is that companies have an incentive to delay compliance until citizens submit their 60 day Notice of Intent to sue. The company then has 60 days to get itself into compliance and avoid all penalties and keep any economic benefit from the violation. Some States that PIRGs are currently filing citizen suits in report that up to 60 to 80 percent of their cases are affected by the *Gwaltney* decision. This greatly undermines the deterrent effect of citizens suits. Congress amended the Clean Air Act

in 1990 to remedy the *Gwaltney* problem. We urge Congress to make a similar amendment to the Clean Water Act.

Other recent court decisions have over broadly interpreted the ability of State actions to preclude citizen suits under the Clean Water Act. These decisions severely undermine both Federal and citizen enforcement and encourage violators to negotiate private sweetheart deals with State Governments that may impose inadequate penalties. EPA has recommended that the Clean Water Act be amended to clarify or delete these provisions. We agree.

Finally, citizens have a right to know when significant threats to their health or the environment are present in their communities. The public should have access to information regarding the discharge of toxins and other pollutants into the waterways in which they swim and fish. Congress should amend the Clean Water Act to require public posting at waterways that do not meet applicable water quality standards or are subject to a fishing or shellfish ban or advisory or consumption restriction.

In addition, Congress should expand existing toxic release inventory reporting to cover additional chemicals, facilities, and data necessary to track and encourage pollution prevention. We are working with Congressman Pallone and Senator Lautenberg to introduce legislation which will strengthen enforcement of the Clean Water Act. We thank Congressman Pallone and Senator Lautenberg for their leadership and urge you all to join them by supporting this legislation.

Thank you.

Mr. APPLGATE. Thank you, Ms. Hartmann.

Ms. Cameron.

Ms. CAMERON. Mr. Chairman and members of the committee, I am going to talk briefly about polluted runoff problems and solutions.

Polluted runoff is our Nation's biggest water quality problem. To give a few examples. Agriculture is widely recognized as the biggest source of water quality impairment in the United States. In EPA's latest compilation of State data, about 100,000 river and stream miles nationwide had agriculture runoff contributing to their impairment. Agriculture was a contributing source in over 60 percent of impaired stream and river miles. The next largest known source of impairment was municipal sewage treatment plants, a contributing source on only 16 percent of impaired river and stream miles. So agriculture does stand out as a major source of water body impairment.

Some specific examples are soil erosion, sediments pollution, fish kills from pesticides and low dissolved oxygen, herbicides detected by the United States Geological Survey throughout surface waters in the Mississippi River system, and nitrates in ground water. All of these are systemic, widespread water quality problems of agriculture. They are not the fault particularly of a few bad actors, although bad actors are there and we must address that problem as well.

In the West, grazing and over-grazing is a major problem. State-wide surveys by the Bureau of Land Management in Colorado, Idaho, Nevada, and Utah show that over 80 percent of assessed streams or riparian zones were in poor or only fair condition.

As you can see from the diagram we have here entitled "Watershed Pollution Sources", on the far left we have a tractor that symbolizes agricultural water quality problems, pesticides and manure spreading. Earlier Brett Hulseley talked about the problem in Milwaukee that may very well have been related to a manure type of pollution. On the right of the diagram you see the homes in blue. Those symbolize suburban development causing polluted runoff and prohibiting or preventing groundwater recharge. When we pave the land, unless we do it very carefully, we ruin water quality. So urban runoff is another major source of water quality.

Right now, we do not have good national statistics from any Federal agency on the full extent of the urban runoff problem. However, the Natural Resources Defense Council has done coarse estimates of runoff loadings in seven major urban areas, including District of Columbia, Los Angeles, and Cleveland. In these urban areas, we found that urban runoff discharges of suspended sediment, organic matter that robs oxygen, and heavy metals often rivaled or exceeded the loadings from factories and sewage plants in the area. So urban runoff is very significant.

Logging is another major water quality impairment. We have new evidence from the Northwest showing that it is not enough to simply protect the river mainstems of the Columbia River and other types of rivers, we must have water quality standards and logging runoff controls that require the protection of vulnerable small streams, tributaries, that are the nursery grounds to rear the small coho salmon and other critical fish for the Northwest.

So leading into solutions. We have technical solutions. We have the know-how to solve all of these water quality problems caused by land-based sources. The problem right now is we lack vision, structure, and enforceable requirements in most States. Existing programs are there in the Farm Bill under the Water Quality Incentives Program but it is a voluntary, underfunded, scatter-shot program. Under the 319, which is the relevant section of the Clean Water Act, we have a program but, again, it is mostly voluntary, scatter-shot, and underfunded.

We also have a new program that shows a lot of promise, the Coastal Zone Nonpoint Source Pollution Control Program. Coastal States right now must implement enforceable runoff controls under this new program. The Coastal program gives us a model for the rest of the country. EPA published a book that is very thick that is full of management measures and these measures are amenable to creative tailoring on each site. We do not wish to dictate practices to landowners but only to ensure that all landowners work together. As you can see in the diagram, we have many different land uses that together impair our watersheds. So together they must work for solutions.

We are working with Congressman Oberstar of Minnesota, who was the framer of the 1987 319 program, to revise that program to give us the vision, the structure, and the enforceable requirements that we need. There are three essential elements that we are looking for. First of all, we want to put all watersheds that are now listed as sick, damaged, degraded, or threatened on a schedule for restoration. I would like to point out that we have a very wide consensus provided to us by Water Quality 2000 for these require-

ments. To quote from Water Quality 2000, "Farm level resource management plans should be mandatory for all farms in watersheds where surface water bodies or ground water systems are impaired or where there is a probability for impairment." So we have a very broad consensus emerging throughout the country that we have to have a watershed-based program and that all land users in these watersheds need to work together under a mandatory requirement that they undertake site level planning, although we want flexible planning and we want the ability for every farmer or logger or developer to tailor it to their individual needs in combination with the needs of the watershed.

We have one more major initiative that I want to highlight, and that is urban watersheds. Urban watersheds are among the most neglected in the country. I mentioned earlier the scourge of urban runoff, which is what we call poison runoff. We also have other widespread damages going on in the Anacostia River, the Cuyahoga River in Cleveland, the Los Angeles River. There are grassroots groups that are working to revive these rivers but they need help.

We are working with Congresswoman Eleanor Holmes-Norton to craft legislation to amend the Clean Water Act and we are looking here again for three major elements in this legislation that we're working on with Ms. Norton. First of all, we want local leadership emphasized. We want to have local citizen groups and grassroots groups working with local government to lead these programs. Secondly, we want green jobs. We want to hire inner-city youth and skilled and semi-skilled workers. Thirdly, we want to hire these workers to do biological restoration, work like creating new wetlands that will act as the kidneys to filter out the poisons from the runoff.

I wanted to mention just one final element that is in the draft Oberstar bill that will also help us to fill the monitoring gaps. We want to require that every State devote a target level of \$100,000 a year out of its 319 budget to volunteer citizen monitoring programs. These programs will be essential in putting our volunteer resources to work around the country to help us find out exactly where are damages going on and how we can fix them.

Thank you.

Mr. APPLGATE. Thank you very much, Ms. Cameron. And thank you all for some very thought provoking testimony. You have certainly represented your positions exceedingly well.

Mr. Adler had mentioned somewhere in his testimony that most people cannot drink from their taps, eat the catch from their fishing pole, or swim with full assurance that they will not become ill or face long-term chronic health problems. Unfortunately, there is no full assurance of protection of anything in life. That doesn't mean that we shouldn't at least set it as a goal to try to achieve that. It would be nice to think we would reach the Garden of Eden, but I am not sure that is within our undertaking.

I just wanted to ask you one thing, just sort of in reference to the Exxon oil spill of some 11-12 million—who said that?

Mr. HULSEY. I said that.

Mr. APPLGATE. That was you, okay. There is two-thirds of that amount is legally allowed to be dumped into the Great Lakes.

What manner is that? Are they permitted to do that? Do they get a special permit or—

Mr. HULSEY. No, these are through standard NPDES permits. For instance, there is a oil refinery on Lake Superior, Murphy Oil, that now dumps about 30,000 pounds of oil and grease into a tributary that runs into Lake Superior. They are now applying for a permit to dump 300,000 pounds of oil and grease directly into the Lake using the Lake as a larger mixing zone. So that is 1 of over 1,000 emitters of oil and grease into the Great Lakes.

Mr. APPELEGATE. How is that permitted?

Mr. HULSEY. Just through the standard State Water Quality—

Mr. APPELEGATE. I don't mean paperwork, I mean why or how? Does it have some benefit other than to the oil company?

Mr. HULSEY. No.

Mr. APPELEGATE. Why would they be allowed to dump that much into any one of the tributaries or into the lakes?

Mr. HULSEY. By using mixing zones, they dilute this oil to such a low concentration that, they claim, it causes no biological effect. And oil does break down; it is not a persistent toxic. But it can be acutely toxic at the point—in fact, in some harbors it lines the bottom and creates sort of a gooey muck that we're probably going to have to go in and clean up.

Mr. APPELEGATE. Yes. Okay.

Mr. Inkley, I think you were talking about the loss of wetlands and you had a chart back there.

Mr. INKLEY. Yes.

Mr. APPELEGATE. I was interested in that and, of course, the reference to Ohio that they have lost 90 percent of their wetlands. I am curious to know over what time period did most of that occur and how did it occur and why did it occur.

Mr. INKLEY. The loss of wetlands in Ohio, the 90 percent loss, goes back over a 200 year time period. The most rapid period of loss of wetlands throughout the country and in Ohio as well was during the 1900s. So it is more recent rather than a more historic loss. A lot of those losses are attributed to agriculture, a lot of those losses are attributed to development in Ohio as well.

Mr. APPELEGATE. Prior to the turn of the century, you say?

Mr. INKLEY. No. I am saying that part of—

Mr. APPELEGATE. You said the 19th century?

Mr. INKLEY. No, in the 1900s.

Mr. APPELEGATE. Oh, 1900s.

Mr. INKLEY. Most of it has been in this century. There has been greatly accelerated loss of wetlands in this century. Unfortunately, the loss of wetlands continues on a nationwide basis at approximately 290,000 acres per year.

Mr. APPELEGATE. Okay. They are interesting figures.

Mr. Adler, you mentioned that by 1985 some 74 percent of the population was served by wastewater treatment plants. Is that the latest figures that you have or do you have others? And let me ask, do you know what percentage of the population which is required to have wastewater treatment facilities is represented by that number?

Mr. ADLER. I believe, Mr. Chairman, that the current figures are roughly 85 percent of the U.S. population is served by secondary

treatment or better. I can check that figure and get an accurate figure to the committee.

As to the percent of population required to have secondary treatment, any city with a surface water discharge sewage treatment plant, except for those limited number of cities with a 301(h) waiver, are required to have secondary treatment. I would point out that there are sewage discharges into our waters every time it rains that receive less than primary treatment through combined sewer overflows. In addition, we have many essentially leaky sewer pipes around the country where we have raw sewer overflows from the pipes themselves. So looking at the percent population served by a secondary treatment plant does not mean that those percentages of our actual sewage is treated to the secondary level, which causes some of the problems that Congresswoman Molinari was referring to in her statement.

Mr. APPLEGATE. And you cite the lack of information to judge progress in overall water quality. But I am sure you are familiar with the work being performed by the Intergovernmental Task Force in monitoring water quality, which is chaired by the EPA with the U.S. Geological Survey, and its efforts to evaluate existing technology to interpret and assess water quality data to recommend better ways to access such technology and to recommend ways to provide technical assistance. How would you rate the concept and the work performed up to this point? And do you have suggestions that you would like to make to them?

Mr. ADLER. I have read the Intergovernmental Task Force report. I think it is excellent work that is being done, not just by EPA but by USGS and other Federal agencies. Experts agree that we have a lot of data but very little information. One USGS commentator referred to our water resources data as data rich but information poor. The information is often inconsistent, taken by different States using different methods that have changed over time at different locations, making it virtually impossible on a national scale to determine long-term water quality trends. That is just looking at chemical data.

As some of my colleagues mentioned, we are doing even less in terms of finding biological impairment. How is the ecosystem faring? A number of States, including Ohio, are leaders in that area, North Carolina, Maine, others who are looking at biological impairment. I believe that the work of the Intergovernmental Task Force will move us forward in looking at the health of the entire ecosystem, and we would encourage amendments that would require EPA and the States to set biologically-based water quality standards as a supplement to chemical-specific standards.

Mr. APPLEGATE. Okay.

Mr. ADLER. Did that answer your question?

Mr. APPLEGATE. Yes, I think so.

Mr. Inkley, your organization has advocated that the Clean Water Act be amended to specifically ban certain chemicals. Do you think it would be more appropriate to do that through law or through the rulemaking process or some other process which would allow for full public participation?

Mr. INKLEY. I would like to ask Stephanie Grogan, our staff expert on that, to address that, if that would be okay with you. I introduced her at the outset of my testimony.

Mr. APPLGATE. Certainly.

Ms. GROGAN. Thank you. I think that there is some maneuvering room within the existing statute under section 307 for EPA to undertake prohibitions of discharges of chemicals. Unfortunately, since the time that was put into the law it has never been effectively used. So while there is potential for that, I think that maybe the law needs to be kind of recharged with further explicit direction on how to do that. We certainly would advocate the laudability of having a public process, mainly because there are a lot of details that need to be accumulated from industry. What are the alternative safe substitutes that could be used in place of banned chemicals? What are alternative processes that manufacturers can use? We really feel that industry should be brought to the table on this to be able to come forth with their information and make it a public process.

Mr. APPLGATE. Okay. That helps to answer my question. That's fine. Thank you. I appreciate that.

We have been looking at President Clinton's idea of establishing a revolving fund for municipal and industrial water supply, drinking water. What do you think of that idea? Would you best answer that, Mr. Adler?

Mr. ADLER. If no one else jumps in, I will try to answer. NRDC, and I believe other organizations, supports the creation of a State revolving fund for drinking water systems around the country. Recognizing that particularly in small communities around the country that do not have the economies of scale and perhaps the access to the bond markets that larger cities have and don't have regional treatment systems, we ought to help with the financing of those safe drinking water supplies for all Americans. We also want to encourage regionalization of drinking water systems so that we can attain those necessary economies of scale.

Mr. APPLGATE. What kind of cost would we be talking about? I know that you said you were quoting Oscar Wilde a while ago and that's fine, it is one thing to know the cost, another the value. We understand that but we also have to deal with reality and we have to know about amounts of money and where we're going to get it.

Mr. ADLER. The environmental community's recommendations on the President's infrastructure plan back in December asked for drinking water financing at the rate of about \$2 billion a year and that included funding for SRF and money through the Farmers Home programs. I believe that the President's program is about a \$1 billion a year SRF proposal, and we certainly think that is a start in the right direction to financing these systems.

Mr. APPLGATE. Yes. Some of his ideas haven't been able to fly so far, so I am not sure how—but I don't think there is any question that it does have value. It is something we certainly are going to want to be taking a look at.

Let me just mention to all of you that we will be submitting questions if we don't have time to ask them all today and we would appreciate your response ASAP. We appreciate your input.

Ms. MOLINARI.

Ms. MOLINARI. Thank you, Mr. Chairman.

Mr. Adler, in your testimony you stated that pollution caused by raw or partially treated sewage seems to be getting worse in some areas. Yet, it has been my understanding that a lot of the urban areas have been upgrading their combined sewer overflows or their package sewage treatment plants. Why is it that in some areas the situation is getting worse?

Mr. ADLER. I believe that the part of my testimony to which you refer talks about shellfish bed closures around the country which is monitored by NOAA, the National Shellfish Register, which is showing that in the past several years the percent of shellfish beds that are closed or restricted has increased by 6 percent. That means either that the pollution is getting worse or our monitoring is getting better; it is difficult to distinguish between the two. But less than two-thirds of our shellfish beds, particularly in the Northeast, Southeast, and some Gulf Coast areas, are fully unrestricted to shell fishing, showing that we have a serious problem both from sewage pollution and from polluted runoff.

Ms. MOLINARI. Mr. Hulse, you mention an issue that is extremely sensitive to part of the area I represent relative to sediments contaminated with dioxin. It is a discussion that continues to go on in the New York/New Jersey area with the fishermen versus the Port Authority, I think that is just about how it boils down. What can we do? We have commissioned a study with the assistance of I think just about every group represented here to go back in and do a dredge material demonstration project. That's not going to help us right now as we attempt to resolve this problem. What should we be doing to prevent this problem. What are your recommendations as to what we should be doing with the contaminated sediment?

Mr. HULSEY. What we found in the Great Lakes is that by identifying very precisely the high contaminant material—in one harbor we had 500,000 per million PCBs which is similar to dioxin in the way it behaves in the environment—and then by surgically going in and removing this material and decontaminating it, as opposed to trying to decontaminate a whole large blob of material, we were able to do it in this one example for about \$17 million at a Superfund site in Waukegan Harbor. This has been our best example. If you have very precise assessment information, sort of a 3-D computer model of where the stuff is, you can go ahead and remove that. Perhaps that material might be stored. I know NRDC and EDF have been working on this with the Port of New York/New Jersey as well as the Contaminated Sediments Working Group, and they are working toward some solution. But by identifying the high contaminated material, you are usually able then to deal with the less contaminated or uncontaminated material in a conventional fashion.

One problem right now is we do not have national sediment criteria to tell us what is contaminated and what is not contaminated. So there is a very low level of trust between the environmental and fishing community and the ports. The ports say it is clean, we say it is dirty. That's why we need to move forward with this EPA process for contaminated sediments standards.

Ms. MOLINARI. Would anybody else at the table like to comment on that? I don't know if you personally have been involved in that issue.

Mr. HULSEY. We can get you some more information on that.

Ms. MOLINARI. I appreciate that. Obviously, it is an issue that needs to be resolved as quickly as possible. Thank you.

Ms. Hartmann, I know that you have met with my staff regarding the enforcement issues concerning our area. What are the objections that we're starting to hear from the New Jersey businesses relative to the new enforcement programs that have developed? If you could just give us a little update on that.

Ms. HARTMANN. All right. As far as I understand, I spoke to some people at the New Jersey DEPE yesterday to find out from the horse's mouth, as it were, how the program is working. Probably the two areas that are causing greatest concern for the industry are the inspection process and the permitting fee system that is involved in the program. The representative from the agency credited the inspection process with being sort of the backbone of the program. By increasing inspections and increasing the value of the inspections, they are finding that they can get the worst violators into compliance more quickly, thereby reducing average penalties. So they see that as being a critical component of the program.

With regard to permitting fees, the State is currently in the process of reviewing the fee system. That is something that we are not recommending be changed. In the Pallone and Lautenberg bills, that is something that we're not touching.

Ms. MOLINARI. Thank you.

Just one last question. Mr. Adler, you indicated that there has been a significant decline in the aquatic habitat, citing a variety of commercial and sport fisheries and shellfish. Can you estimate how much of the decline is due to the physical alteration such as dredging or development versus pollution or over harvesting?

Mr. ADLER. No, I can't and I don't think anyone can assign specific percentages of fisheries decline caused by habitat loss or pollution or by over-fishing. But I can quote to you from the best experts I know of, which are a panel of experts from the American Fisheries Society, who wrote in 1989 that "habitats continue to be degraded through human activities associated with agriculture, mining, industry, and urban development. While harmful exotic species, non-native species, continue to be introduced and native fishes are transplanted beyond their natural ranges, overuse was a relatively minor factor and only for a few species." So over-fishing turns out not to be the big part of the problem. Alteration of habitat, physical and chemical and biological habitat decline is the larger part of the problem.

Ms. MOLINARI. Thank you. Thank you, Mr. Chairman.

Mr. APPELGATE. Thank you, Susan.

Mr. HAYES.

Mr. HAYES. It is interesting in listening to the panel, as almost always the case with any group of environmental panels, I find myself that I agree implicitly with some of the things that are said and that I disagree with some others that are said all in the same morning at the same time. As I was sitting here I was thinking,

in light of some of your comments, how to add some kind of structure into that chaos so that we can both prioritize our concerns and reduce them through the use of criteria that everybody can understand and implement.

Let me give you an example and I'll show you why the difficult process. I think the worst example that I know of a permit granted by a State agency to do environmental harm is only about 30 miles from what I think is the worst example from the failure to grant a 404 permit to do some tremendous good. In the first case, the Department of Environmental Quality in the State of Louisiana is granting a permit for discharge of waste materials through injection that I am convinced is going to harm the Chico aquifer. I think that is outrageous. In the other, we have what is an illustration of a clash not between development or farm community and environmental issues, but a clash within itself.

This is leading to some of the difficulties I have with the position taken with the Wildlife Federation where the agencies themselves through different missions have clashed. In other words, marine fisheries is interested in fish and so is U.S. Fish and Wildlife. On the other hand, you will have some efforts by the Corps and you will have some efforts by environmental organizations on duck habitat on fresh water and, on occasion, agriculture interests moving in on fresh water. Those two collide. In looking at your brochure, which I think is excellent, when you talk about "we" have got to save fishing interests that are commercial, "we" have got to translate that to environmental benefit and jobs, "we" have got to save a declining duck population, guess what? You can't always be on the same side as if they never, ever come into conflict. And when they do we need a rational basis of determination because the one made 20 miles from the site I think is insane and ends up having erosion and salt water intrusion and the loss of wetlands.

My question is, and I am really going to Doug only because you have covered the areas I am most interested in. The truth is I would like to talk to all of you on a different occasion and maybe with a different kind of forum where there was an opportunity for interchange within the groups here. But almost everything in your organization's brochure that I agree with points to the need for more localized control, not more central control from Washington. In other words, I don't know how many people in this audience with what environmental credentials would actually believe that I am sitting here looking at a fight with the Catholic Church trying to do a marsh management plan where those who are in favor of it say it will increase duck population, it is good marsh management with approvals from the Corps, and those who criticize it at EPA saying that actually erosion has declined, it is not bad as it could be, and it will harm commercial fishing if you go forward with more freshwater.

How do you resolve that from Washington? Can't you resolve that better with a coastal management plan for Louisiana where those interests are closer and more visible and can be seen better? You will never satisfy both sides. In other words, you can't legislate the answer to that question; you will always have those clashes. I would be most interested in your response on localization.

Mr. INKLEY. Thank you, Congressman Hayes. I am not sure I got all of that. Perhaps you could repeat the question for me? [Laughter.]

Mr. HAYES. I'll be glad to. [Laughter.]

Mr. INKLEY. I was kidding. I would like to go ahead and address your question directly. We do believe that the Army Corps of Engineers should be responsible for continuing a program as they have managed it. That is a national program. Also involved should be the Environmental Protection Agency as the oversight agency. We stand by both of those agencies being involved. It is important to have the Environmental Protection Agency as an oversight organization. After all, they are the Environmental Protection Agency. It is a national program which, by and large, has worked very well. Certainly, there have been some problems but we believe that it does need to continue as a national program.

Mr. HAYES. But looking at your recommendation on page 40 of your information, you are recommending amending section 404 to require the permitting agency to accept the recommendations of Fish and Wildlife Service or National Marine Fisheries Service unless—and then you say (1) is inconsistent with legal requirements, and (2) alternatives to Fish and Wildlife Service recommendation to provide equal protection for aquatic functions. What I am saying is you just made them all fish and in so doing removed the balance in order to have a conflicting view on trying to do some kind of duck population preservation, which gets back to your \$1 billion a year that sportsmen spend doing that, and once again pushes the two against each other with now the resolution made by Fish and Wildlife. I assure you they are going to resolve each and every instance in one manner. That is not balance and that is not going to preserve wetlands. That is going to erode and cause salt water intrusion which is killing wetlands.

The 46 percent loss you are referring to in my State of Louisiana—and by the way, I notice you are using the Fish and Wildlife Service definition and not that of the manual. Congratulations. You probably couldn't understand the manual and neither can anybody else. But even in using the limited definition of Fish and Wildlife, you are concluding those coastal wetlands are being lost, and you are right. They are being lost mainly not by construction, not by the building of roads, bridges, tunnels, sewers, they are being lost by salt water intrusion. Salt water intrusion is precisely what is often promoted on plans to enhance movement and estuary systems for more fish. That is not wrong but what I am trying to point out to you is it is not so simple to simply say you have an environmental concern and an industrial concern. That is just not true. I think that has got to be brought to local levels for decisionmaking.

Why would you automatically assume, for example, with no—look, this agency has a mission. I don't want anything I am saying to be critical of Fish and Wildlife. Their mission is to do what they are doing. But why would you make it defer to them automatically and remove from that any kind of balance or decision that EPA, for example, would make in your illustration of looking at the balance of both competing interests?

Mr. INKLEY. I think the answer to your question, Mr. Hayes, is that what we really need to do is try to conserve the wetlands as

they exist today. The problem that you are referring to of different agencies having different objectives is that we're talking about manipulation of wetlands from their original condition to some other type of condition. Wetlands type conversion is very difficult to do, very expensive to do. I think that we need to look towards conserving and preserving wetlands in their original condition where they exist today rather than trying to make massive type conversions to other types of benefits that supposedly the wetland would provide.

Mr. HAYES. Okay. But let me give you perspective of two different States and two different parts of the world. Mrs. DuPuis came up here last week, she was among the many Americans who received environmental awards. Some of you may even have been among those who nominated her. She was the Louisiana winner and there was a very nice dinner where I believe Jay Hare[ph] spoke as a matter of fact and where the awards were given. She sat in my office and she said the most difficult thing for her to explain to the people she had met up here when they would talk about what are you doing in Louisiana is that doing nothing murders our State, whereas doing nothing on beautiful sand beaches in parts of California or Florida may well be a lofty goal, but that we are losing these great numbers because of salt water intrusion and erosion added to by natural forces of hurricanes on occasions. If we do nothing, we are going to lose tremendous additional numbers of those acres.

That difference in perspective is probably where most of our disagreement comes from. If you look at the geography, you can look much more at what I am and why I have arrived at confrontations with environmental groups. Doing nothing down there murders the State. That's why I go so much for localized treatment and continue to talk about not balance in the traditional terms of 20 years ago, about jobs versus pristine forest lands, but a balance of understanding that if we don't build structures, if we don't dredge and fill, then we are going to continue not conversion, but watching it convert through our inaction to nothing but a salt water basin and move salt water in the Gulf of Mexico up Interstate 10, which would be the last barrier. Those are real concerns and why I keep pressing all of you in the environmental community to show you my perspective. Because if you don't localize those areas, if you don't allow them a marsh management system and a system of coastal control and management, then you are not going to have environmental good, you are going to have dramatic environmental harm.

And, yes, the young lady who points out there are some State permits that are disastrous is absolutely right. But science can play a different role there because the role science can play there is to look at water quality, to look at both water and air emissions under Clean Air, and play a more objective role. To do a manual that defines what a wetland is may be an interesting scientific exercise but it is meaningless to our problem in Louisiana because it doesn't matter what you call it or don't call it. If we can't have some kind of more localized control, then we are going to watch it disappear under anyone's definition.

Mr. INKLEY. The Army Corps of Engineers, as you know, is responsible for running the permitting program. In 1991, over 80,000

actions took place in wetlands under the individual and general permit program. By and large, most of the applications that are applied for are granted and the project goes ahead, the project proceeds. I believe this particular project that you are referring to is the Point DeFeur project?

Mr. HAYES. Yes.

Mr. INKLEY. I understand that permit application has been withdrawn at this time.

Mr. HAYES. Right. Which is a good example of why you can't use the overrides of the vetoes. All of those statistics are meaningless; they are numbers that don't matter. And why? When you talk about instances, it is under general permits. Yet, under the Edwards bill, we do away with general permits. The Edwards bill does not have general permits done under it. It has requests for specific permits. Why would that be good?

Mr. INKLEY. The fact of the matter is that still there continue to be these 80,000 actions that occur in wetlands per year. That was a statistic from 1991. This is under the Clean Water Act as it is run now. By and large, the Army Corps of Engineers is a permit-granting agency. Less than 4 percent of the permits are denied on an annual basis. The projects do, by and large, proceed.

Mr. HAYES. It is not important enough to get into the semantics of that. I don't agree with that but it is not important enough to waste the time on. It is a matter of definition of how you call "proceed" and what enters and exits the system.

Leaving that aside, let's take the Corps then as an agency, let's take EPA with its function. What I am getting at is this, why would you not trust the EPA to do its job, leave the Corps as permitting, allow the EPA's role? Why do we have to keep expanding into more and more agencies? Why do we keep having to add to the amount of paperwork flow there and back? Why not give EPA the resources and Corps, which has the resources and a presence in virtually everywhere, the authority to go on as a permitting agency with the oversight through EPA, instead of needing five other agencies to give their input, including, under Don Edward's bill, the addition of the Department of Commerce?

Mr. INKLEY. It is very important for the agencies, the Army Corps of Engineers and the EPA, to have—

Mr. HAYES. No. That's those two. Why do we need additional agencies? Why can't we streamline it where we're now dealing with two agencies?

Mr. INKLEY. The U.S. Fish and Wildlife Service and the National Marine Fisheries Service both have trained biologists that are specifically trained to do those duties as to assess the environmental impacts with respect to marine fisheries and with respect to fish and wildlife impacts. It is their responsibility to make advisements to the EPA and to the Army Corps of Engineers. They should have that responsibility. The Army Corps of Engineers and the EPA should be seeking out the best authorities possible. That's why we want to include the National Marine Fisheries Service and the U.S. Fish and Wildlife Service in that process. Let's get the best information available.

Mr. HAYES. But with an automatic assumption that their recommendations are followed. That's not including them in the process, that is elevating them.

Mr. INKLEY. It is not an automatic assumption that their recommendations follow. It is stated that they must reply specifically in writing as to why the recommendations are not being followed.

Mr. HAYES. Actually, it says to follow them. It says, "Therefore, we recommend amending 404 to require the permitting agency to accept the recommendations." To require to accept is not to take a look at it and ask them what their comments were and respond to them. What I am saying is I have nothing against Fish and Wildlife except you are elevating it, and then where is EPA's role? What happens when EPA doesn't veto and says "By the way, we disagree." Are we going to elevate these to Washington? Are we going to have 80,000 elevations to Washington? Obviously, you would overwhelm EPA there.

The problem with all this is in Washington people are looking at papers. Where these sites are, we have too few resources. What we ought to be doing is using resources at the site level to make better judgments than can be made at a higher level. You are talking about science and doing research. Where are you going to do the research? How about the site? How about the place where it is happening?

Mr. ADLER. If I may interject for a moment. The Edwards bill, as I understand it, says that the recommendations of the resource agencies, Fish and Wildlife and National Marine Fisheries Service, are required to be followed unless the Corps of Engineers has good reasons in writing for ignoring them. So it essentially says listen to the expert biologists unless you have good reasons not to do so which you can articulate in writing. I guess I don't think that's a particularly unreasonable process.

I was shaking my head earlier about the general permits. The Edwards bill does not eliminate general permits, it simply requires the Corps of Engineers to evaluate the impacts of those permits so that the cumulative impacts of activities under general permits are not environmentally degrading. Recent studies by the Fish and Wildlife Service have shown that is occurring.

Mr. HAYES. It says evaluate them in each individual case. In which case, you may as well not have a general permit. If you are evaluating it in each individual case as the permit applies to that case, then it doesn't matter that you don't have a general permit, you are evaluating each case over again and not putting it under the general permit.

Mr. ADLER. I think that's an interpretive—

Mr. HAYES. I'm not sure that is entirely wrong. The point is the resources to do that are nonexistent.

Because of the time constraints, and actually I have probably imposed upon the Chairman's patience more than I would have, but let me ask you to accept this responsibility. As spokesmen for the environmental community, you have at stake what Barney Frank correctly called yesterday "the ability to retain confidence of the public", without which you are going to fail. My concern is that if we don't structure correctly the interplay of individual property owners and add sanity back to a system that can be seen where

the system is being enforced—and most of what I am talking about now is in the wetland area, in the contaminants into major water streams where people at home can see an impact of removing chemical waste, et cetera—but if sanity is not put in those programs where people at home can see it, then you are not just going to lose their vocal support, you are going to lose the entire means by which environmental quality is sustained.

If you bust the funding source, then we're not going to have environmental quality that we can be very proud of. And an insane system will be the genesis of a public reaction to it, a rejection of it because it is not working at home. We are doing crazy things to local people and I don't mean we can excuse it on their ignorance of environmental standards, it is the other way around. They can't excuse us up here in this city on our ignorance of what is really happening in the sites in which they live.

This can be done. You can preserve every environmental goal that you have without the need of an imposition of an absolutely insane system with a dozen comments from God knows how many Federal agencies and bring it to an entire grinding halt just through red tape and regulation alone. The goal in many cases, as I say, is not to shut everything down; in some, it had better be that progress is made through activity instead of throttling it. Because I promise you, if you fly over south Louisiana and look at dead patches of individual mitigation, it is nothing more than testimony to a 404 permit system that makes no sense, and compare that to Secretary Browner's ideas of large mitigation banking, then you will see failure versus the potential for great success. Those are the kind of places where we can meet and where I totally agree with you. I think that the confidence you build at home in using sane systems will reflect very well on future environmental activities, the absence of which is going to lead to an economic destruction and an environmental destruction.

Mr. INKLEY. As a private landowner and also as an owner of wetlands, I would like to respond to your comments. I would say that there is very strong public support for the wetlands agenda that the National Wildlife Federation has outlined. There is no question that there have been editorials written in newspapers all the way across the country supporting wetlands protection. In fact, our own Louisiana Wildlife Federation is a very strong advocate of wetlands protection, including the agenda that we have outlined in the book that you have there. So there is strong support for wetlands protection.

Mr. APLEGATE. The gentleman from Arkansas, Mr. Hutchinson.

Mr. HUTCHINSON. Thank you, Mr. Chairman. Let me commend my colleague from Louisiana for his comments and his line of questioning.

Mr. Adler, in your written testimony you indicate some support for new methods to put a price on environmental protection benefits using what you call the "contingent valuation survey method". If I understand what you are saying in your written testimony, that is a process based on asking citizens what they would be willing to spend for such protection. Is that what is meant by that "contingent valuation survey method"? What is that?

Mr. ADLER. Contingent valuation is a relatively new economic method of assessing the economic value of intangible environmental resources, the value of sitting on a beach and knowing the water is clean, the value of knowing that your kids can swim in their waters safely, that they can go to their favorite fishing hole and be reasonably certain that the fish they eat are safe to eat. It is something which we can't easily put an economic value on.

I believe that there are cases where use of contingent valuation is appropriate. An example was in assessing the damage caused by the Exxon Valdez oil spill. I do believe that it is a new methodology. We can't use it to say this is the total benefit of a resource which is shared by all Americans and future generations, but I think it has some limited value.

Mr. HUTCHINSON. Couldn't the survey easily be manipulated by either emphasizing the costs of pollution to society or, alternately, to emphasizing what society already spends on pollution control?

Mr. ADLER. It could be manipulated in many ways. Criticisms of contingent valuation methodology on both sides argue that it is critical that the people being surveyed are properly informed. So, for example, if the public doesn't know, as Mr. Inkley noted, that wetlands protect 43 percent of threatened and endangered species, if I got that figure correct, then they will give a different answer than if they do know that statistic. So I do agree with you that this is not a perfect methodology and I certainly do not mean to imply that we should use that to come up with a fixed valuation on aquatic resources. I used it more to say that the hard numbers that I presented, the value of commercial fisheries, dollars spent on water-based recreation, do not fully measure the value of our water resources. There are intangible values that we can't possibly put in economic terms and this just gives a sense of the value of those resources.

Mr. HUTCHINSON. I think my concern would be that through surveys like this and through economic methods like this that you end up imposing something from on top. We underestimate I think what people can demonstrate of their concern about environment and the cost to society of pollution through a voluntary method and through a market system.

Ms. CAMERON, in your testimony you referred to farm level resource management plans. Can you help me understand what you mean by that?

Ms. CAMERON. Yes. There are at least two proposals circulating now, maybe even three. First of all, we have the Oberstar draft bill, which I mentioned earlier, that refers to site level or farm level water quality plans. There is also a proposal from Representative Glenn English to have whole farm or total resource management plans for farms. And thirdly, there is a proposal circulating from the Association of Metropolitan Sewerage Agencies that also talks about minimum standards of operation for all land uses that degrade water quality. Those could be thought of also as site level plans potentially.

So regardless of what the individual proposal calls it, we're looking for site level flexible plans that are developed by the land-owners and operators, with the help of and technical assistance of experts like people in the Soil Conservation Service and other ex-

perts, to craft their own approach to water quality on the farm, on the logging site, on the construction site so that the watershed goals are met.

Mr. HUTCHINSON. Would the site level plan or the farm level management plan which would be individually developed be voluntary? Would there be voluntary compliance or would it be mandated?

Ms. CAMERON. We're looking for—and, again, these are in the target watersheds. What we mean by “target watersheds” are that we want all of the watersheds, the drainage areas of the impaired waters known to the States to be impaired or threatened now to be on a schedule for restoration. So when we take all of those waters that are in need of restoration, what we recommend is that the States require the landowners and operators to undertake site level planning. So in that sense, it is not purely voluntary. We want the States to require—well, we want Congress to direct the States to require that those plans be developed and implemented. Right now, as you know, we have a voluntary system and it has not worked.

Mr. HULSEY. Congressman Hutchinson, could I add a quick comment to that?

Mr. HUTCHINSON. Yes.

Mr. HULSEY. In Wisconsin, we have one of the best nonpoint water pollution programs in the country. In this budget, the State of Wisconsin has about \$35 million of its own money relegated to nonpoint pollution control. In our targeted watersheds, we have 30 to 40 percent enrollment in the 319 program yet we are not seeing significant improvements—despite the resources, despite all the time we've spent, despite our State program—in improving nonpoint pollution. What we have seen in Milwaukee is an example of that. So we firmly believe that all farmers need to be involved in this program and all individuals in the watershed cities included.

Mr. HUTCHINSON. I wouldn't contest that a bit but I would contest the statement that it is not working or that voluntary compliance cannot be successful. I think that we're seeing a much, much higher percentage of participation and compliance on a voluntary basis in Arkansas than what you are indicating in your testimony.

Ms. CAMERON. If I could add two more points to respond. First of all, where we are seeing a lot of gains, for example, in keeping soil on the farm it is largely the result of a required program. For those who receive commodities—

Mr. HUTCHINSON. When you say “required”, are you referring to a requirement that a plan be initiated and that they implement the plan?

Ms. CAMERON. That is correct. Under conservation compliance under the Farm Bill, those who receive commodities benefits and have highly erodible land under farming, they are required to undertake soil conservation plans and to implement. So that is an example of a farm level plan related to water quality that is already in place that is required.

Secondly, I will give you an example of a well-known watershed case study in Ohio, the Big Darby Creek watershed. It is a tremendous example of what farmers and environmentalists and State people can do when they work together. This is a watershed with

many endangered species of aquatic life. Even there right now there is only about 15 percent of the farmers that have undertaken the kind of water quality measures that they need to undertake, and that is a voluntary program and only 15 percent is no where near the target goals for that very important watershed where roughly 75 percent or 85 percent of the farmers are needed to join that program in order to make it work.

Mr. HUTCHINSON. We won't debate that. As a group, let me just ask the whole panel a question. As a group, you have outlined a very, very ambitious agenda for clean water reauthorization. Would anyone or has anyone on the panel estimated the total cost to industry, to municipalities, to society as whole if your proposals were fully implemented?

Mr. HULSEY. No, in a word. But I think that for each of the proposals that we have talked about we have considered the cost and considered cost-effective ways of achieving the results. Let me give you at least one example of combined sewer overflows which we've talked about here today. Recently there was a negotiated quasi rulemaking situation in which the Association of Metropolitan Sewerage Agencies and my organization, NRDC; the Environmental Defense Fund, and the State water pollution control agencies got together, recognized that combined sewer overflows are a critical water quality problem, especially in our larger older cities and along our coastlines, but realized that traditional secondary treatment controls might be prohibitively expensive in some areas and we figured out solutions that were cost-effective and we will be recommending to this committee and the committee in the Senate that they adopt those as part of the bill.

So, no, I can't give you a total cost but I can give you assurances that we are interested in the most effective, efficient way of solving these very serious problems. The data in our testimony shows that industry is currently spending \$6-\$8 billion a year on industrial pollution controls. The EPA needs surveys for sewerage are about \$110 billion over the next 20 years for the sewage treatment systems that we need. An additional \$60 or \$70 billion for CSO controls. It will cost a lot of money to fix these problems. But as I outlined earlier, if we don't do so, we jeopardize literally hundreds of thousands of jobs in industries that depend on clean water and that also add billions of dollars to the U.S. economy. So you have to consider both sides of the equation.

Mr. HUTCHINSON. Indeed, you do. I certainly appreciate the need for environmental impact statements. But I think sometimes when we issue these environmental mandates that maybe we need an economic impact statement as to how it is going to impact the community, the school district, the job situations. There is a balance to be maintained and there is an impact on both sides.

Thank you, Mr. Chairman.

Mr. HULSEY. Mr. Hutchinson, in the Great Lakes we have estimated that it will cost about \$540 million to clean up 27 contaminated sites. That is applying our current experience with cleaning up the worst site and multiplying simply by the 27 other contaminated sites you saw.

Mr. HUTCHINSON. What I would suggest though is that does not tell the whole story on what the economic impact will be.

Mr. HULSEY. Right. And right now, if we do not dredge some of those sites—for instance, in Indiana Harbor ships cannot come in full of ore, they have to light load ore. So it is costing the steel industry in the country millions of dollars right now because they can't deal with the problem.

Mr. APPLEGATE. Mr. Parker.

Mr. PARKER. Thank you, Mr. Chairman.

Our technology is getting more and more advanced and sophisticated every year. In some of the testimony, reference has been made to restoring the zero discharge philosophy. Well, zero is changing. It is getting less and less. We can find more and more minute particles, different types of unbelievably small amounts of chemicals and elements in water. Do any of you feel there is a problem with us chasing zero? When does this thing stop?

Mr. HULSEY. Zero discharge is called for by the Great Lakes Water Quality Agreement that we have with Canada, or actually it is the virtual elimination of persistent toxins. That 2,000 pounds of PCB figure that I quoted that companies legally emit into the Great Lakes every year, many of the times the companies have permits that are at the level of detection or below or slightly above. So they are emitting those in very small quantities, parts per billion, parts per trillion. But because they are emitting such huge quantities of water, we have to consider the total maximum daily load from those companies; in other words, have them add up the amount. For instance for PCBs, that is coming out of about 75 pipes at a very small quantity. Many of those are paper mills. So we have to try to measure the total maximum amount of PCBs that are coming out of those paper mills, not just the concentration, even though it is close to the level of detection.

Mr. PARKER. But do you see a problem with us chasing zero whether it is air quality or water quality?

Mr. HULSEY. We believe that progress should be made toward zero discharge of the most egregious persistent chemicals. Those can be identified by their cumulative nature or persistence nature. But as a level of detection, lower than that will automatically start to phase out these chemicals. Right now, we are about 70 times the level of PCBs in fish in the Great Lakes than the EPA says is healthy. So, clearly, we aren't making progress toward zero discharge. And those numbers are actually increasing in some lakes.

Mr. PARKER. From an overall view, do you think that we should move toward a procedure where we would have, for lack of a better term, peer review where we would establish a standardized system where everybody would know what to expect—and I know technology is going to continue to move forward—where everyone both on the Federal and State level would know what we would be looking for, what they would be responsible for? Am I making sense in trying to ask this question?

Mr. INKLEY. I would like to address that with respect to wetlands. We do, indeed, believe that a peer review process is appropriate. That is now underway. The Congress has charged the National Academy of Sciences with developing recommendations, looking at the scientific merits for delineating wetlands. Through that peer review process we should then be able to move on and base our wetlands determinations, base our wetlands policies on science.

Mr. PARKER. Let's talk about water quality. Do you feel that same mechanism would work as far as water quality?

Mr. HULSEY. Congressman, I think that we do have peer review mechanisms in place for such things as development of water quality standards which have specific EPA protocols for the number of studies that must be done and they must be peer reviewed studies to develop a standard. And of course we have got Notice and Comment under the Administrative Procedure Act for every regulation that EPA and the States under State analogues have to promulgate.

Mr. PARKER. Answer this question for me. Why do I have my city officials back home who are trying to meet all the Federal regulations for water quality coming to me saying "They said we had to put in this system so we raised taxes and we put in this system. We don't have it paid for and now they are coming saying things have changed and now you have got to change your system". Why is that? Are my officials back home confused or am I confused not knowing how to explain?

Mr. ADLER. Mr. Menendez actually asked a similar question several weeks ago. And I will give two answers. One is that no one ever agrees entirely on science. You can have 10 scientists disagreeing on the same point just as you can have 10 lawyers disagreeing on the same point. At some point, we need to give a presumption of correctness to our public officials if they followed good process and have reasonable science. Otherwise, we would never do anything. If you wait for perfect science, then those who are harmed are the public who end up with no standards until there is an elusive goal of scientific perfection.

Second, science moves. We continue to learn more and more. And so when we learn that a chemical is more or potentially less harmful than we knew before, then we need to adjust our sights appropriately or else the public and the environment is at risk.

Mr. PARKER. Don't you think there should be some type of standardization so everybody would kind of know where you're going and sometimes spending needless hundreds of thousands of dollars?

Mr. ADLER. I think I agree entirely, and let me give you one example. Right now, EPA writes water quality criteria under section 304(a) which are guidance to the States. The 50 different States then take those criteria and develop different water quality standards for each State based on those criteria. Each of them have to go through an independent process, each have to defend their criteria in different State courts, resulting in tremendous inconsistency. An example is dioxin, where the public in Maryland has a standard which is 100 times weaker to protect public health than across the border in Pennsylvania; and in Virginia, the standard is 100 times weaker than across the border in North Carolina.

We're not talking about the difference between protecting bass in Alabama and trout in Maine; we are talking about people whose susceptibility to cancer and reproductive illnesses and other effects from these chemicals does not vary. You are correct, we ought to have standardization of the degree to which public health and the environment are protected across the country.

Mr. PARKER. One final question. When you are dealing with agriculture and nonpoint source pollution, agriculture pollution, from

reading your testimony, I get the impression that you want everything mandatory down the line. Am I right about that?

Ms. CAMERON. Well, we don't want everything mandatory in the sense that we want to have farmers as well as all other landowners and operators in the target watersheds undertaking water sensitive practices but we do not want to dictate what those practices should be, except for the provision that those practices obviously will need to be in conformance with the needs of the watershed. For example, atrazine levels in the Ohio River or in other rivers that service drinking water supplies, where atrazine levels are detected by the U.S. Geological Survey to be exceeding the drinking water standard for human health, what we want to have is the farmers who are using that herbicide on their corn and other crops in that watershed undertaking practices that they will design, that they will choose of how they want to reduce the atrazine that comes off their lands. But, yes, we definitely need flexibility but the duty should remain and should be established that all the landowners that contribute to this common water quality problem need to contribute to its solution.

Mr. PARKER. Let me ask you this now. Let's say you go out to west Texas and you are irrigating because you have to because it doesn't rain enough. Then you have got a place like Mississippi where it rains so much our children mildew. [Laughter.]

There has got to be some flexibility there. For instance, a city down there can't build a system that will handle the water that comes down, let's say, like some of our hundred year floods. You can't do it. It seems to me there has got to be some flexibility on this thing so it will work.

Ms. CAMERON. We agree that we definitely have to have flexibility in what exactly happens on each site and that those decisions need to be left up to the site owners and operators. But, on the other hand, because we have already invested so many billions of dollars in pollution clean-up for factories and sewage plants, we want to make sure that those investments for the whole watershed yield results. In order to have those investments yield results, we need to bring in the other additional sources of those same pollutants. For example, if sewage plants don't work properly, they could result in pathogen contamination in the same way that feedlots, dairy operations, and other kinds of animal operations also tend to have a lot of runoff with possible pathogen problems if they aren't brought into a whole watershed program.

Mr. PARKER. Thank you. Thank you, Mr. Chairman.

Mr. APPELEGATE. Thank you, Mr. Parker.

Mr. Quinn.

Mr. QUINN. Thank you, Mr. Chairman. Just briefly some general questions. I know we're coming to the end here.

Thank you for your testimony. Before I came up here to the Congress, I was a local town supervisor in western New York and, in that capacity, was on the receiving end of Clean Water Act programs. My predecessor here, Henry Nowak, a member of the committee and Chairman of this subcommittee, was a great help to us back in western New York. But in my capacity as a local town supervisor, I know the fear that local officials have when dealing with

the bureaucracy and government red tape here in Washington, D.C.

A general question for you, Mr. Adler, if you want to be the spokesman for the group. We are going to be dealing with financial reality here in Washington, D.C. very, very soon. One of the advantages we have with the Clean Water Act reauthorization is that over the years Congress has done a lot of hard work. As you all said previously, we have had two decades to review this legislation. I think this statute has been working, but needs more work. Is it a question of just more money, will more Federal money make this a more effective program?

There needs to be a streamline to the legislation, to give the localities greater flexibility and easier administration. We heard yesterday from municipalities, towns, cities, and villages from around the country who have made suggestions on simply how to refinance some of these projects. Have you, or will you, as a group from an environmental point of view make some suggestions that don't just throw money at the problem? Are you prepared to comment on that?

Mr. ADLER. Yes, and I appreciate the comment. Just as a preliminary, we do support increased Federal funding for the State Revolving Fund program, a matter that was addressed a couple of weeks ago. We will put ourselves in the \$5 billion and up club in terms of how large we believe the SRF ought to be to responsibly meet the needs of local communities around the country. But we do not think that just throwing more money at the problem is the only solution.

We need to spend that money more wisely. I will give you two examples in the sewage treatment arena. One is the water conservation proposal that Mr. Inkley outlined. Just as least cost energy planning is not only protecting the environment, but saving electric utilities around the country money by ensuring that if it is wiser and cheaper to invest in efficiency than to build a new power plant, it is the better environmental as well as economic decision. The same is true for water. We ought to be doing least cost water planning so that if it is cheaper to invest in water efficiency than to build both a new water treatment supply system and a larger sewage treatment plant to handle the increased flows, we ought to be doing that. We ought to be having communities do least cost planning to spend our Federal dollars more wisely.

A second example raised by Congressman Hamburg a couple of weeks ago is the use of alternative treatment technologies for sewage in small communities where we don't necessarily have to build the same type of gold-plated secondary treatment plants that we might in a large city. It might be both more environmentally sound and more cost effective to use marsh pond treatments or spray irrigation systems that are less capital intensive and, probably more important, less expensive to operate. So we need a combination of increased funding and wiser use of the funds.

Mr. QUINN. Thank you. And I think that flexibility and the regional approach which my colleague, Mr. Hayes talked about this morning is something that I am going to be looking at in these next few months and through the rest of the year so that we can build in that flexibility we talked about earlier today. I think it is key.

Thank you, Mr. Chairman.

Mr. APPLGATE. Thank you, Mr. Quinn.

I am sure you will be relieved to know that is it. But I would want to just mention that the ranking minority member Mr. Boehlert regrets that he cannot be here. However, he is working on a very important issue and that is base closings, of which he has one, and so he must be there. But he said that at some time in the future that he would hope to have an opportunity to sit down and talk with each of you.

So thank you very much for appearing before the committee this morning.

Our next panel is titled "Agriculture Panel". We have today Bennett Raley, the National Water Resources Association; Keith Eckel, the American Farm Bureau; Paul Genho, the National Cattlemen's Association; Danita Rodibaugh, National Pork Producers Council; Pete Wenstrand, the National Corn Growers Association; and John Lewis, the Agricultural Retailers Association. I would add that Mr. Lewis is from Belmont, Ohio, in Belmont County which is down in my neck of the woods. It is good to have him here.

As I mentioned with the preceding panel, all of your full statements will be part of the record and the Chair would appreciate if you would summarize your positions. We will attempt to have some questions that we will want to ask and, in the event that we don't get all of the questions from all of the Members, then we would submit questions to you and hope that you would submit answers back to us.

Mr. Raley.

**TESTIMONY OF BENNETT RALEY, NATIONAL WATER RESOURCES ASSOCIATION; KEITH ECKEL, AMERICAN FARM BUREAU; PAUL GENHO, NATIONAL CATTLEMEN'S ASSOCIATION; DANITA RODIBAUGH, NATIONAL PORK PRODUCERS COUNCIL; PETE WENSTRAND, NATIONAL CORN GROWERS ASSOCIATION; AND JOHN (J.I.) LEWIS, AGRICULTURAL RETAILERS ASSOCIATION, ACCOMPANIED BY CHRIS MYRICK, DIRECTOR OF GOVERNMENT AND ENVIRONMENTAL AFFAIRS, ARA**

Mr. RALEY. Thank you, Mr. Chairman and members of the committee.

The agricultural community well understands the importance of the Clean Water Act and of its role and responsibility as a part of our society to address the issues associated with it. The agricultural community has been very focused on the issue, particularly since section 319 in the 1987 amendments. This focus continued when approximately two years the agricultural community joined together 20 groups and developed something, which is attached to my testimony, called "The Principles Statement of the Clean Water Act Working Group". This was a two year effort to identify successes in section 319 that could be built on and areas where there is a need for improvement. I think that the agricultural community has worked very hard to look at the Clean Water Act in a very proactive and realistic manner and that these principles are a good work product resulting from it.

What I would like to do is focus on two parts primarily of my written testimony. The first one is a broad issue that is very, very important to agriculture, but important to point source dischargers as well. The second issue that I will get into is what I will refer to as a regional issue, it is a water allocation issue that is primarily important to the arid States of the west.

Let me go back to the broad issue. In 1972 Congress stated a very laudable goal. It said let's protect, preserve, and enhance the physical, biological, and chemical integrity of the Nation's waters. That is a laudable goal. But let me explain what has happened since then. Some well-intentioned person said, well, Congress meant what it said and so let's develop biological criteria, let's start transforming that goal into a regulatory requirement. And EPA has done just that. In its 1990 Biological Criteria Guidance which EPA asserts States must adopt within this coming triennium and implement in the following triennium, your goal of protection of the biological integrity of the Nation's waters is put into a regulatory scheme because it is folded into criteria that States have to consider when they adopt standards.

Let me tell you what that goal is. That goal is—the narrative standard quotes an example—the status of the stream shall be as it naturally occurs. Again, that is a great thought, but that is absolutely impossible to achieve and still have the society that we know today. It is impossible. I will prove to you that it is impossible to achieve that because one cannot have a natural or pristine stream and withdraw water for use, as we must do in the west to survive. The stream is no longer in its natural state; we have something different. It is a human induced change to that environment.

It is critical for Congress to decide whether or not these theoretical goals of preservation of biological, physical, and chemical integrity are to be continued to be imposed in a very realistic sense on folks that are subject to the Clean Water Act. The answer? The answer is to leave that decision to the States. The "flexibility", as referred to by Mr. Hayes and others, in terms of balancing the competing goals of society, that flexibility we believe can best be achieved at the State level. And it requires that Congress and EPA not render States only an enforcement mechanism, but truly give them the flexibility to make some of these balancing tests that are inherent in a political environment.

The second thing that I want to address, because it is critically important to the west, is that the Clean Water Act cannot be viewed separate and apart from the 125 year history of Congress deferring to the States to decide how to allocate and administer water rights. It is the same water. We are at both ends of the pipe; we need clean water for our uses and we discharge water. The relationship between the two is established by my prior reference to physical integrity. Our fears are that the Clean Water Act will be used to try to reallocate water that has been previously allocated under State systems. In most States, those are property rights and there is very serious concern about an overlying regulatory effect on these property rights.

But the concern is not just property rights. These are allocation systems that, if you strip away the politics, strip away the emotion, and strip away the history, are simply a mechanism to allocate a

resource when there is not enough to go around. And if Congress wants to replace State water allocation systems with a Clean Water Act water quality-driven allocation system, they should do so explicitly and it should explain to the States how it is going to replace it, how these decisions are going to be made in the future.

This is not just a theoretical problem. Look at the California Bay-Delta where sediment standards are being used as a surrogate to get at and limit the diversion and withdrawal of water. And I will give you a second example from Colorado. I was on the State's Nonpoint Source Task Force. In particular, I was on the subcommittee that dealt with hydrologic modifications, which are the dams and diversions that divert the water so we can use it. In those negotiations the environmental community made it very clear that they wanted the Clean Water Act to be applied so as to force prior water rights to give up water that they are entitled to. That was honestly and candidly stated.

It is that concern that I would like to raise with this committee today. It is a very difficult issue to craft a substitute system if you want to throw out what the States have done in their individual systems over all these years. I think that you need to be aware that this general rhetoric about environmental, ecological, biological, physical integrity has potentially direct implications for these water quantity systems.

Thank you.

Mr. APPELATE. Thank you very much, Mr. Raley.

At this moment, I would like to recognize the gentleman from Pennsylvania, Mr. Clinger.

Mr. CLINGER. Thank you very much, Mr. Chairman. I just wanted to take an opportunity to welcome the panel, but particularly to welcome my friend Keith Eckel, who is the president of the Pennsylvania Farmers Association and has been an outstanding leader in agricultural issues for many, many years and one of the more thoughtful and constructive participants in the ongoing debate on the issues affecting the agriculture community. I look forward to his contribution to these hearings today. Welcome Keith.

Mr. ECKEL. Thank you, Congressman. I appreciate that.

Mr. Chairman, members of the committee, I appreciate this opportunity to testify before you this afternoon. My name is Keith Eckel. I am president of the Pennsylvania Farmers Association, the Farm Bureau in Pennsylvania, and serve on the board and the executive committee of the American Farm Bureau Federation. We represent over four million families across this Nation who have joined the Farm Bureau. I also am a farmer and proud of that fact.

I was interested in the previous testimony that there was an indication of concern for contingent valuation methodology. Until that point in the hearing, I was concerned about a farmer's place in this hearing this morning. But I think we might stack up quite well on contingent valuation. I know the committee will be studying all of the testimony that we're submitting today, but there are a couple of points that I want to emphasize.

One of those points is the success of agriculture in feeding this Nation and also maintaining environmental quality. You will find in that testimony a statement that we are working with the same land base as we did in 1900; we are farming 340 million acres of

land. We're feeding 179 million more people just in this country. If you look a little bit further, you will find that we have 35 million acres in conservation reserve where any type of erosion has been eliminated by 90 percent. We have done that while meeting that challenge, and, yes, we have done it while we have reduced the amount of disposable income to 11 percent expended by the food consuming public for food in this country. I think that those are contingent valuations that under any methodology are very important.

I come to you this afternoon to assure you that farmers and farm families are extremely concerned about water quality for our families, for our neighbors, for our livestock, and for our crops. It has been our intent to work in a manner to preserve that land. I personally believe that working together, agriculturalists and environmentalists, we can achieve our goals, and that is of a better land tomorrow.

I live on a farm that we have farmed for four generations. Our intent has not necessarily been to make only a profit today and forget about tomorrow because there was the next generation that was going to take care of that land and make a living from it. I am one of those who believes that private property rights are not an antithesis to environmental quality but a strong contributing factor. One of the strong concerns that I have, especially listening to the testimony this morning, is that we believe that we can centrally mandate improved water quality. We only need to look to the Soviet Union and Eastern Europe to recognize almost immediately that central control doesn't mean that we improve the quality of our land or our water resource base.

There are three broad perspectives and aspects to the Clean Water Act that we believe you need to give strong attention to and all have equal importance.

First is the need for a nonpoint source program that retains the basic tenets of the current 319 program. Specifically, preserving the right of the States as the unit of government responsible for water quality standards, emphasis on locally designed solutions, and emphasis on voluntary programs. There was a lot of concern expressed this morning about voluntary programs. But I would remind you that since 1982 we have cut pesticide use by 20 percent in this country while increasing our food production, not because it was mandated but because it was good business and financially sound to do it. We did it voluntarily, not being mandated to do such. Nitrogen efficiency in corn production has increased 14 percent since 1980.

But let me bring it more importantly home to the farmer, I'm one of those, involved in tomato production. In the last 10 years, working with Penn State University, we have moved toward banding of fertilizers rather than broadcasting of fertilizer. That doesn't sound very dramatic, but, ladies and gentlemen, what it has done has enabled us to cut our chemical fertilizer application in half and yet increase our productivity per acre. A win-win for efficiency, competitiveness, and the environment. It can be done when working together. I think that is the point I want to continue to hammer at today. It has to be a cooperative effort rather than an antagonistic effort.

I heard suggestions this morning that the right of private action would be important for compliance with a new act. Ladies and gentlemen, that is not for the protection of neighbors; neighbors already have the right to sue. That is an invitation for litigation, costly on both sides, to achieve goals that we commonly have; not for the neighbor, but for an outside source to become involved in litigation. I think we know what litigation has done to our insurance industry and our health industry. We cannot afford that in the agriculture industry as a solution to our problems.

I think secondly, we need to have a clear, comprehensive wetlands law passed from the standpoint both of equity of the landowners and also from the standpoint of good conservation. We need to finally define what a wetland is, classify it according to its importance, identify it for the benefit of all landowners and the general public surrounding it, and then study the question of compensation. If, in fact, it is in the public interest to preserve, it needs to be at the public cost.

I was very encouraged by questions from the committee this morning, especially as they centered around the recognition of the need for measured progress and the need also to invest our resources to their utmost good. That brings me to our third point, a commitment of financial resources and time to achieve our goal.

By everyone's testimony here today, we have learned that point source pollution has seen tremendous progress made over the last 20 years because of 2 things—taking time to analyze the solutions, and because, yes, in some case, public investment. It is impossible to judge changes in agricultural practices in one year in one watershed. That takes time. I am confident that we are making that progress. The new reauthorization needs to take that into consideration also. It is not something that happens overnight just because we say it is going to be.

Secondly, in the case of investment, as this committee and former congresses have acted to provide for control of point source pollution, funding was also provided because it was recognized that there was significant cost. Funding will have to be provided in these cases to assist agriculture in order to comply with the regulations over time. We do not encourage increased taxes, per se, or increased levels of spending, but perhaps the time has come as we reauthorize the Clean Water Act to determine whether some of the funds now invested in the point source pollution situation should be shifted to nonpoint source pollution.

I am always an optimist. To be a farmer you have to be. You have to be confident that when you sow the seed you are going to reap a harvest. I believe that if we give sufficient study and analysis to the problems I have discussed this morning we can confidently sow a seed for a better tomorrow, but a seed planted with optimism and cooperation, without finger pointing and finding a need not for achieving compliance but violation. We need to work together, gentlemen, to achieve our common goals.

Thank you.

Mr. PARKER [assuming the chair]. Mr. Paul Genho, National Cattlemen's Association.

Mr. GENHO. Thank you very much. My name is Paul Genho. I am chairman of the National Cattlemen's Association's Private

Land and Environmental Management Committee. I am a cattle rancher and citrus grower from the State of Florida. Today I am here to represent the policy of NCA's 230,000 affiliated cattlemen which represent 46 State associations.

At the beginning, I would like to express our support for the testimony that will be given by the National Corn Growers and also given by the National Water Resource Association. NCA also joins with the 20 other national agricultural organizations in support of a statement of principle for reauthorization of the Clean Water Act. We have appended this statement of principle to NCA's written testimony which we would like to submit for the record.

Cattlemen across the country are vitally interested in the reauthorization of the Clean Water Act. No other issue could have such a potential impact on our business. I would like to, if I may, briefly address six areas that we think are of concern.

First, NCA's policy is that the Clean Water Act should continue to focus on the control of discharge of pollutants in the waters of the United States in order to protect State classified use of a particular water body. This goal should not be changed directly or indirectly to create a federally-driven program for restoration of aquatic habitat as measured by pristine standards for biological integrity.

The second point is States should clearly retain primary authority on water allocation and land use. The Clean Water Act should not be used as a vehicle for imposing EPA-driven land use planning.

The third point that I would like to make refers to cattle feeding operations. Concentrated animal feeding operations, CAFOs, for beef cattle have been regulated by the Clean Water Act for over 20 years. Current regulations require NPDES permits for all feeding operations with more than 1,000 head of cattle. Also, the current laws confers authority for permitting feeding operations of any size if they are determined to be a significant contributor of pollution to waters of the U.S.

According to the U.S. Department of Agriculture, in 1990 85 percent of the fed cattle marketed were finished in feed lots of 1,000 head capacity or more. This is the highest percentage of any animal species regulated by the NPDES program. The National Cattlemen's Association supports the current NPDES provisions of the Clean Water Act with several recommendations for clarifying amendments, which are explained in our written testimony.

The fourth point I would like to address today is the nonpoint source provision. NCA generally supports the current nonpoint source provisions in section 319 of the Clean Water Act. NCA believes these provisions should be given additional time and adequate funding with better targeting to impaired areas before their effectiveness is judged. NCA's written testimony and others testifying today document that many USDA programs and State nonpoint source programs are currently working to reduce agricultural runoff. It is our impression that substantial progress has already been made. As explained in the statement of principle, NCA believes the central focus of nonpoint source management programs authorized by the Clean Water Act should be a voluntary approach based on incentives, education, and technical assistance.

This Clean Water Act reauthorization consideration of nonpoint source pollution is being driven by EPA's recent National Water Quality Inventories which claim agriculture is the cause of over half of the nonpoint source pollution. NCA strongly urges this committee to carefully scrutinize the actual magnitude of agriculture's role and a careful analytical review of the data upon which EPA issued this national summary. For lack of time, I will not comment further on that but that is a very important point.

NCA would like to know where and what the problems are. Where there are genuine problems related to livestock production, cattlemen intend to do something about it. To this end, NCA has begun a water quality information project to review the States' 305(b) reports. Our purpose is to determine exactly where there are NPS problems associated with beef cattle, the magnitude of the problem, cause and means of remediation. The first year of this project will concentrate on 15 key States.

Our questioning of the magnitude of agriculture's contribution to nonpoint source pollution is not meant to deny that there is significant nonpoint source problems caused by agriculture. However, on the basis of current data, it appears that these genuinely severe problems are limited to certain areas. We urge Congress to provide meaningful targeting of provisions to remediate any such real problems rather than a shotgun approach to NPS.

Although coastal areas are waters for which there is more meaningful data, reported problems, and thus worthy of targeted programs, NCA opposed the approach taken in the recent amendments to the Coastal Zone Management Act. These amendments have created a federally-driven land use control program with minimum management standards. These standards would be enforceable for all land users in coastal areas whether or not a particular property owner is a cause of a problem. In other words, he would be obligated to comply whether he was contributing to the problems or not. EPA's estimated initial cost to the private sector for initially getting in compliance is \$500 million. We should recall that this is for a small part of the Nation. What will be the cost if this approach is included in the Clean Water Act?

This kind of land use control is a serious infringement of property rights. It is also a questionable assumption of State constitutional rights to control land use.

The fifth point that I will briefly mention is wetlands. NCA supports the need for comprehensive legislation to define wetlands. As such, we support H.R. 1330 authored by Mr. Hayes. It is worth noting that the normal farming and ranching exemption in section 404(f) of the Clean Water Act is not being adequately implemented for ranchers. Cattlemen have been required to obtain or have been denied 404 permits for normal ongoing practices as basic as haying, grazing, maintenance of ditches, stock ponds, and removal of shrubs and brush.

The final point which I would mention is that NCA urges this committee to keep in mind private property rights protected by the Fifth Amendment in your deliberation of wetlands and nonpoint source issues. NCA joins with the growing number of landowners seeking legislative guarantee for financial compensation from regulatory takings of property and land use. In recent years, the Su-

preme Court and the U.S. Claims Courts have continually upheld the compensation requirements of the Fifth Amendment in what is now a series of cases. The cost of this kind of litigation though is prohibitive, especially for the small farmer. Legislative relief should precede judicial relief.

Cattlemen are willing to address genuine environmental problems and seek practical, viable solutions. Cattlemen all over the country are currently engaged in private and cooperative management projects to reduce and prevent water quality problems. With targeting sufficient funds for nonpoint source programs, realistic time frames, and site-specific management voluntary programs will succeed.

Thank you very much.

Mr. PARKER. Thank you, Mr. Genho.

Ms. Danita Rodibaugh with the National Pork Producers Council.

Ms. RODIBAUGH. Mr. Chairman and members of the committee, my name is Danita Rodibaugh and I am a pork producer from Rensselaer, Indiana. I live on a 1,600 acre farm which consists of 900 acres of corn and 500 acres of soybeans. In addition to my involvement in the family farm, I serve on the executive committee and the environment committee of the National Pork Producers Council.

Today I am speaking on behalf of the National Pork Producers Council, the National Turkey Federation, the National Broiler Council, the National Milk Producers Federation, and the United Egg Producers. We appreciate this opportunity to testify on the reauthorization of the Federal Water Pollution Control Act. We look forward to working with the committee as new legislation is developed. The Clean Water Act plays a key role in our future.

The 1985 Farm Bill and the 1990 Farm Bill included provisions to help agriculture producers in addressing nonpoint source pollution concerns. The programs implemented under the 1985 Farm Bill are beginning to show dividends in protecting water quality. These efforts and the new programs included in the 1990 Farm Bill need to be given a chance to work if we are going to make substantial gains in water quality.

The Agricultural Water Quality Protection Program is a potentially significant and far-reaching program for improving water quality. This program was designed to provide producers with the financial and technical resources necessary to develop and implement comprehensive water quality protection programs. It requires an investment of time and money by the producer that, through incentives, makes the adoption of these practices economically feasible. If proven successful, this approach could serve as a model for future water quality programs.

Congress began to take a comprehensive approach to the problem of pollution from all nonpoint sources in 1987 when it last amended the Clean Water Act. Some of you on this committee provided the leadership in adding section 319 to the act authorizing State-Federal programs aimed at controlling the diverse sources of pollution. The livestock and poultry producers represented here today disagree with the criticism directed at section 319 and urge Congress to retain and enhance this watershed approach. Section 319 has

not suffered because of structural flaws in its program, it has suffered because Congress has failed to provide adequate funding.

Our most fundamental goal is to develop and implement a coordinated program to help livestock and poultry producers be better stewards of our natural resource. We believe that problem identification, environmental research, producer education, and technical and financial assistance are essential building blocks for ensuring that livestock and poultry systems are effective in addressing environmental concerns. We strongly believe that an incentive-based approach that includes cost-share assistance, no interest or low interest environmental loans, and environmental tax credits would help provide agriculture producers with the financial tools to effectively deal with nonpoint source concerns.

In addressing water pollution problems, we must remember that our primary focus is to improve the overall quality of water in threatened watersheds. The use-based standard currently employed in the Clean Water Act has served our community and our country well. It is unlikely that the scientific community or the general public would support a move to extreme standards such as bio-diversity. We believe it would be a mistake for Congress to further encourage citizen law suits in the reauthorization of the Clean Water Act. Farmers already spend an extraordinary amount of time and incur significant expense complying with regulations promulgated by Government agencies. Our producers do not need the additional burden or expense that comes from defending ourselves against third party law suits that may, or may not, be related to environmental quality.

Those of us in agriculture want the Federal Government to speak with one voice when making wetland determinations on farm land. A large share of the producer problems with wetland cases in rural areas are the result of contradictory advice given by various Federal agencies that have a legislative interest in the issue. It is imperative that the Clean Water Act contain new wetland language that provides fair and reasonable regulation. Congress should provide necessary protections to true wetlands while respecting individual property rights and providing for a minimum of restriction on available agricultural lands. Significant progress toward water quality is being made through programs currently administered by USDA. We hope these programs will be allowed to work before additional regulatory requirements are placed on the agriculture community.

The livestock and poultry sectors that we, as members of the nonpoint source community, must play a key role in protecting our environment. Our organizations are willing to work with this committee to find creative solutions that protect our Nation's waters while maintaining the financial viability of our members.

Thank you.

Mr. PARKER. Thank you, Ms. Rodibaugh.

Mr. Pete Wenstrand, vice president of the National Corn Growers Association.

Mr. WENSTRAND. Thank you, Mr. Parker, for the opportunity to address the subcommittee today. I am testifying on behalf of the National Corn Growers Association, of which I am vice president, and also on behalf of the American Soybean Association, the Na-

tional Barley Growers Association, the National Cotton Council of America, the National Association of Wheat Growers, and the U.S. Rice Producers Group. Our organizations do work closely together on environmental issues and are especially interested in the reauthorization of the Clean Water Act.

At the outset, I do want to stress that we enthusiastically support the positions on legislation addressing nonpoint source pollution that were developed last year by a broad based coalition of agriculture industry groups. Cattlemen's Association this morning already referred to that document and, again, it is attached to their presentation.

I would like to take a few minutes to outline some points of particular interest to crop farmers whose operations stand to be significantly affected by some of the proposals that have been put forth so far in the debate over the Clean Water Act rewrite. In short, we favor adequate protection for our Nation's water resources while ensuring that agriculture is provided an opportunity to contribute to water quality enhancement by means that are technically and economically viable. We feel the current authority in section 319 of the act provides a valuable framework for managing nonpoint source pollution and should not be cast aside in favor of a new mandatory regulatory approach.

First among our core principles is that the Federal Government should allocate additional resources to States to assist them in better identifying water quality problems and activating effective management strategies to address the problems. Second, greater financial commitment should also be directed to research, monitoring, and assessment programs to enable effective and cost-efficient responses to water quality problems. Finally, where problems are identified, landowners should be encouraged to adopt voluntary, site-specific water quality best management practices through cooperative programs which provide education, technical assistance, and incentives to accelerate those best management practices.

We also recognize that in some cases the Environmental Protection Agency may need to give additional direction to State agencies as they develop plans to achieve water quality goals. Any such new oversight activity should, however, preserve the flexibility of State and local authorities to tailor programs to fit their local situations.

As for our interest in continuing a voluntary approach to protecting water resources, there are several Federal programs with the potential for improving water quality which have been warmly received by farmers. Perhaps best known is the Conservation Reserve Program. This program is reducing erosion and runoff on more than 36 million acres nationwide. The Rural Clean Water Program run between 1980 and 1990 established several pilot projects for testing the effectiveness of management practices for managing nonpoint source pollution. Ongoing efforts include the Great Plains Conservation program, the Agriculture Conservation Program, and the Water Quality Incentives Program which encourages producers to enter into three to five year agreements to put in place resource conservation practices. It should also be recognized that the conservation compliance requirements for highly erodible land established in the 1985 Farm Act have contributed significantly to water quality improvement.

While I realize this subcommittee does not hold the purse strings for water quality programs, permit me to address the issue of funding for just a moment. Appropriations for section 319 programs, first approved in fiscal year 1990, have averaged \$47.8 million per year. It should come as little surprise that some States have been less than enthusiastic about enacting vigorous nonpoint source programs when, on average, they can expect to receive less than \$1 million per year to carry them out.

There are some encouraging signs, however. In fiscal year 1994, the Clinton Administration has proposed increasing 319 funding to \$80 million. We also applaud the administration for proposing an additional \$47 million in section 319 projects for fiscal year 1993 atop the \$50 million already appropriated. Our organizations feel these developments are a strong signal of support from the administration for nonpoint source pollution management approaches envisioned by section 319. Accordingly, we encourage this subcommittee to authorize significant resources to ensure that quality nonpoint source programs can be put into effect.

At the same time, we were disappointed to note that no funds were specified for the Water Quality Incentives Program as part of the fiscal year 1994 budget for the U.S. Department of Agriculture. We hope that the Appropriations Committee will see fit to at least continue this year's funding level of \$15 million.

But getting back to our preference for voluntary programs, there is ample evidence that when farmers are provided with information on management practices which minimize erosion and runoff and enhance their economic viability, they are quick to adapt. I think back to my own situation. I farm about 1500 acres of corn, soybeans, and wheat and am currently using a no-till system. I realize that no-till farming is maybe not applicable in every area, but I do want to point out that the information on a different tillage system, on reduced tillage system was available to me. I evaluated it from an economic standpoint, I evaluated it from an environmental standpoint and decided to do it and do it without facing any Government mandate.

In a study recently released in my home State of Iowa, researchers found that a policy similar to that which our groups support, based on increased research and education efforts would result in significant improvements of water quality while maintaining the profitability of agriculture production. One of the researchers, Michael Duffy of Iowa State University, said that a State investment of \$1.5 to \$2 million would help farmers reduce nonpoint source pollution. That is only slightly more than the \$1.4 million in section 319 funds which Iowa received. Obviously, the figures will vary from State to State.

But our message today is that we can improve water quality without burdensome regulation or taxation of inputs through reasonably funded programs that encourage farmers to carry on a legacy of stewardship while maintaining their economic ability to produce food and fiber for a world market.

Thank you again for the opportunity to testify today. Our Nation's farmers look forward to working with you in the future.

Mr. PARKER. Thank you, Mr. Wenstrand.

Mr. John Lewis, president of Belmont Mills.

Mr. LEWIS. Mr. Chairman and members of the subcommittee, my name is J.I. Lewis and I am president of Belmont Mills, a retail fertilizer, pesticide, and seed outlet in the 18th Congressional District of Ohio. I am here today representing the Agricultural Retailers Association, ARA.

ARA was formed just last year to address the unique interests of small agricultural businesses across the United States. Today, ARA represents over 5,000 retail dealers who market well over 80 percent of the pesticides and fertilizers sold in this country. I am accompanied today by Mr. Chris Myrick, director of Government and Environmental Affairs for ARA.

The issues that I have come here to testify on are nonpoint source pollution that may emanate from agriculture production operations and the ever-increasing regulatory burdens that are impacting small businesses such as mine.

Agriculture, especially over the last decade, has come under increasing scrutiny as a result of claims that we are a main contributor to the degradation of our lakes, streams, and groundwater. I am here today to say that my business and agriculture industry have taken aggressive steps to address this issue. However, I believe that over-regulation is becoming such a serious issue that my business and businesses of my customers located in Ohio are being threatened.

The retail segment of the agriculture industry is under tremendous regulatory pressure by Federal, State, and local Governments at the present time. Belmont Mills has been a family owned business since 1900. At no other time have we seen so many costly and burdensome regulation changing than over the last few years.

In 1979, we shipped approximately 400 cars of feed, grain, and fertilizer into our mill at Belmont by rail car. By 1980, one year, we had lost our rail service in the name of Federal regulation. We have experienced two grain embargoes, various acreage reduction programs, and two milk buy-outs which left us six employees and \$1 million less in business. We are heavily involved in strip mine reclamation but, through the Clean Air regulations, our mines are all but gone.

Due to this kind of pressure, ARA expects to lose over 30 percent of our Nation's retail businesses by 1997. Surveys have shown that regulatory compliance costs for the average retail dealership will skyrocket by over 200 percent annually by 1997. Since many of these regulations are aimed at water pollution and environmental training for those who apply pesticides and fertilizers, Congress must consider the economic impact that increased regulations will have on small businesses in rural communities such as Belmont where retail dealers are, in many cases, the largest employer.

I am proud to say that Belmont Mills and agribusinesses across the country are doing a good job of addressing environmental issues such as nonpoint source pollution. Over the last decade, agriculture has voluntarily adopted numerous measures that have resulted in the reduction of possible sources of pollution from our Nation's farms. For an example, I custom apply pesticides and fertilizers for many of my farm customers in Ohio. Custom application benefits the environment because my trained and licensed applicators have a tremendous amount of experience in applying input in

a manner which will reduce the chances of nonpoint source runoff. In addition, I work closely with my farm customers to ensure that only the proper amounts of inputs are applied to their fields. Not only is my business using these types of environmental stewardship practices, many dealers and commercial operators across the country now custom apply for their farm customers.

The agriculture industry has made tremendous strides in adopting new technology and management practices that reduce chances for nonpoint source pollution. Because of time constraints, I cannot go into depth on each of these new areas but I hope you will review my written statement which does go into more detail.

Besides voluntary steps being taken by retail agriculture suppliers to reduce nonpoint source pollution, I will spend a few minutes talking about the tremendous increase in the use of soil conservation and residue management practices. Belmont Mills, for example, has practiced no-till for 20 years and now approximately 65 percent of the businesses we serve use no-till production practices. Because there is a significant correlation between reduced pesticide and fertilizer runoff and no-till, steps to reduce erosion through no-till greatly reduce the potential for fertilizer and pesticides being found in our water systems.

Now I would like to talk specifically about what I think Congress should do to reauthorize the Clean Water Act. First, I ask don't pull the rug out from under my business by passing legislation that imposes overly burdensome requirements and reduces what profit there is left in agriculture. After looking over some of the proposed legislation reauthorizing the Clean Water Act, I see a potential for more economic problems if mandated nonpoint source programs are instituted.

As a taxpayer and small businessman, I cannot sit here today and tell you that I would support the adoption of new nonpoint source legislation that will eventually cost taxpayers millions, if not billions, to duplicate existing programs. Congress has already given States the authority to regulate nonpoint source pollution through the Clean Water Act. This leads me to my second suggestion. Congress should fully fund existing programs and give them time to work before establishing new programs.

Since I am running out of time, let me conclude by stating that any new legislation should keep programs voluntary and flexible to ensure the maximum participation and reduction of economic burdens. Agriculture and nonpoint source pollution are site-specific issues that must be addressed on a site-by-site, farm-by-farm basis. Be sensitive to the needs of farmers in rural communities.

I would like to thank the committee for having me here today to testify, and request that my written statement be submitted for the record. Mr. Myrick and I will be happy to answer any questions that you might have.

Mr. APPLGATE [resuming the chair]. Thank you very much, Mr. Lewis, and to the panel for your expertise. It is extremely helpful to this committee. We have a long journey to make before we are going to be able to put all of this together into some kind of legislative form and then try to get it passed through the Congress.

Just generally, in order to put this whole thing together there seems to be this relationship we have between the Clean Water Act

and what we are trying to do, on the one end, and the wetlands issues. And there comes a question of whether or not they should be put together at all. The Senate seems to be looking at the possibility of trying to divide this into two issues and maybe trying to pass one. That would probably be a difficult task because I am sure there would be people who would feel that was germane, which probably would be by the parliamentarian, and try to develop it through amendments.

On the other hand, the National Academy of Science is now attempting to try to put together just exactly what wetlands are and try to define it. Do you have any thoughts on that? Do you think we should wait for the National Academy of Sciences to come through with their work? Should we move ahead and try to do what we can do now, immediately, with a bill? Should we try to move a bill that would deal with wastewater treatment, point source, nonpoint source? Do you have any ideas at all on that?

Mr. ECKEL. Yes, Mr. Chairman. I would indicate that we are always concerned with scientific fact and basis and analysis. I think that is key to any program. Having said that, I think if we wait until every scientific issue is decided on the wetlands issue, we will delay the badly needed day that we need for the Congress finally to legislatively define what a wetland is. I would encourage you, the committee, and Congress to take a very hard look at that. We personally support the concepts of Congressman Hayes' bill, H.R. 1330. But there is no question that there needs to be a definition, identification, and classification of those wetlands so that we can proceed about the work. I don't know if waiting a year and a half is in the interest of any of the groups involved.

Mr. APPELATE. Mr. Raley?

Mr. RALEY. Mr. Chairman, the National Water Resource Association would be opposed to separating them on a number of grounds, but I think one of the more important is it is too late to separate them. In Colorado, in the last several weeks, we have been meeting extensively within the State because Colorado has been told by EPA that it has to adopt water quality standards that are applicable to wetlands. So the State is in the unfortunate position of having to adopt water quality standards for something that nobody can identify. Congress needs to solve that problem because it is a practical problem that will be shared by the other States as well. If they are not doing it right now, they will be doing it very soon.

Mr. APPELATE. Okay. I bring that up because Senator Baucus seems to be committed to divide the two issues. I was interested in hearing what you had to say about that.

You have heard from the environmental panel that progress that has been made, if you wish to call it that, especially in the agriculture nonpoint area, has been very poor at best. Your statements point to a completely different result thus far. Do you think we can all agree that much more must be done? The real question I guess is what is the best way to get there? I think that you urge voluntary approaches and the environmental panel urged an enforceable program. Will a voluntary program be adequate?

Mr. ECKEL. From the Farm Bureau standpoint, Mr. Chairman, we believe that the voluntary program is absolutely the route to take if we anticipate success. Mandated regulation, at best, can

only hope to eliminate operations that I don't think are in the interests of Americans in general, or agriculture in particular.

One area I didn't touch on in the testimony but one of your committee members did highlight is the immense progress that technology continues to make. I continue to believe in that process. We have a research project currently going on at the University of Pennsylvania School of Veterinary Medicine working with changing the diet of dairy cattle, of varying the sources of protein and the amounts of protein, as well as maintaining or enhancing production levels, and decreasing the protein content of animal waste significantly. And when I talk about significantly, I am talking in excess of 20 or 25 percent. Those types of practical research projects need to be funded and pursued.

Secondly, the point I would make as far as the analysis of the progress that we have made is it has taken us 20 years in the point source issue and we need to give time to see the fruition of the labors that we have seen in the conservation programs that have been talked about this morning. Secondly, the basis of analysis needs to be looked at. We have one study that I will provide to the committee where there was an analysis that there was a serious agricultural pollution problem I believe it was in the Iowa River. When the facts were reviewed it was found that the level was no higher than it was 50 years ago, prior to the use of nitrogen fertilizer.

So I would suggest that we need to be certain of our facts before we make the judgment that we aren't making progress. I believe farmers make progress every day. There was a comment made that there is an incentive not to be environmentally sound. When it comes to agriculture, there is an economic incentive to be totally sound. It does not serve our interests to use excessive pesticides or excessive chemical fertilizers because that costs us more money in our operation; it does not add to our profitability. That is why you have seen the wiser, better reduced use of those technologies over the last 10 to 12 years.

Mr. APPLGATE. Okay. I thank you. That's very interesting.

Some, and I say some of you, have been very critical of the 404 dredge and fill program. But getting back to the wetlands, what do you think Congress can do to afford the protection to the wetlands? That seems to be a very key question and a very sensitive one.

Mr. ECKEL. I don't mean to preempt my fellow panel members, and I apologize for that, but I think there are some areas that need to have a great deal of work done. We talked about the 404 permit, we talked about the general permit, and there was testimony before on that. I have four case studies here that I am going to leave with the committee.

One of those case studies involves a Pennsylvania farmer who wanted to create a farm pond of 2.5 acres for additional water supply for his cattle. He has dealt with five different agencies at this point in time, has been into the project two and a half years, has finally drilled a well for a supplemental water supply, and is no closer to resolving the problem than he was two and a half years ago.

We have a second situation——

Mr. APPLGATE. What was the problem with that one?

Mr. ECKEL. The problem with that one was that the various agencies couldn't even agree whether or not they had jurisdiction as far as issuing a permit. This gentleman wanted to meet the law so he went to the Soil Conservation Service and asked them for their assistance. They went to U.S. Fish and Wildlife. U.S. Fish and Wildlife raised some concerns and transmitted those to the Army Corps of Engineers. The Army Corps of Engineers indicated that they did not have jurisdiction over this because they did not consider it a significant wetland. Our own Department of Environmental Resources indicated that they did and that it needed a joint permit between Army Corps and DER. And that is where the man is now with those two agencies still arguing where there is jurisdiction.

Mr. APPLEGATE. So there is no problem with the physical plan itself, it is just in the procedural work?

Mr. ECKEL. That is our understanding to this point. In fact, to my knowledge they have not gotten to the point that they have analyzed his plan. All of the time has been spent in paperwork.

That is the one other issue that I want to raise to this committee. Our farmers do not have the financial resources nor the time to spend two and a half years solving a problem that should have been taken care of in six months. If you have a project with large dollars involved for development or whatever, you can afford to go through that type of process and perhaps convert a very important wetland to another use. In agriculture, what happens is the farmer, after a long period of time, says I either can't afford it or I can't spend the time at it, and nothing is done. That is not in the interest of the agricultural community or the consuming community of this country. That is what we are trying to highlight.

We do have to bring these different entities together with a set of guidelines so that everybody knows where they are.

Mr. APPLEGATE. I have other questions but I am going to look to some of the other members of the panel to ask some questions.

Mr. Hutchinson.

Mr. HUTCHINSON. Thank you, Mr. Chairman. I would ask unanimous consent that a statement from Congressman Emerson, who regrettably is unable to be here, be entered into the record.

Mr. APPLEGATE. Without objection, the statement will be made a part of the record.

[Mr. Emerson's prepared statement follows:]

**BILL EMERSON**  
MEMBER OF CONGRESS  
8TH DISTRICT, MISSOURI

HOUSE COMMITTEE ON  
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STATEMENT OF CONGRESSMAN BILL EMERSON  
BEFORE THE SUBCOMMITTEE ON  
WATER RESOURCES AND ENVIRONMENT  
REAUTHORIZATION OF THE FEDERAL WATER POLLUTION CONTROL ACT  
APRIL 22, 1993

MR. CHAIRMAN, I WOULD LIKE TO THANK YOU AND OUR RANKING MEMBER, MR. BOEHLERT, FOR HOLDING THIS IMPORTANT FORUM ON AN ISSUE CAUSING GREAT CONCERN IN MANY RURAL TOWNS AND COMMUNITIES -- PARTICULARLY IN SOUTHERN MISSOURI. INDEED, THE REAUTHORIZATION OF THE FEDERAL WATER POLLUTION CONTROL OR CLEAN WATER ACT HAS TREMENDOUS IMPLICATIONS FOR BOTH RURAL AMERICA AND THE CRITICAL AGRICULTURAL ECONOMY THAT SUSTAINS THESE SAME RURAL TOWNS AND COMMUNITIES. I WELCOME THIS OPPORTUNITY TO ADDRESS BOTH NEEDS AND SOLUTIONS TO PROBLEMS FACING THE FAMILIES OF TODAY'S FARMING COMMUNITIES.

WITHOUT A DOUBT, AMERICAN FARMERS AND RANCHERS ARE THE ORIGINAL STEWARDS OF THE LAND. NO ONE HAS A GREATER INTEREST IN MAINTAINING AND IMPROVING THE QUALITY OF THEIR WATER AND SOIL THAN THE DOMESTIC FARM PRODUCER. CERTAINLY, THE HARD-WORKING MEN AND WOMEN OF TODAY'S FARMING AND RANCHING COMMUNITIES ARE WILLING TO FURTHER COMMIT THEMSELVES TO CONTINUED RESPONSIBLE SOIL AND WATER CONSERVATION PRACTICES WHICH WILL ALLOW THEM TO PASS ON THEIR PRODUCTIVE LAND, CROPS, AND LIVESTOCK TO FUTURE FARMING GENERATIONS.

AS WE SET ABOUT TO REAUTHORIZE OF THE FEDERAL WATER POLLUTION CONTROL ACT, WE MUST ACKNOWLEDGE THE TWENTY YEAR COMMITMENT OUR NATION HAS PUT FORWARD TO ADDRESS THE CHALLENGES OF POINT AND NON-POINT SOURCE POLLUTION. I BELIEVE THAT OUR SUCCESS IN FURTHER REDUCING WATER POLLUTION, PARTICULARLY NON-POINT SOURCE EFFORTS, WILL REQUIRE SIMILAR TIME AND RESOURCE COMMITMENTS.

NON-POINT SOURCE POLLUTION IS LARGELY A WEATHER-RELATED OCCURRENCE THAT CAN BE MANAGED, BUT NOT ECONOMICALLY ELIMINATED ENTIRELY. RATHER, WE MUST BEAR IN MIND THAT NON-POINT SOURCE POLLUTION IS CAUSED BY THE INADVERTENT DISCHARGE OF POLLUTANTS FROM A WIDE RANGE OF SOCIETY'S MOST ESSENTIAL ACTIVITIES.

AS WE SEEK SOLUTIONS TO THESE NON-POINT ISSUES, A SOUND AND REASONABLE APPROACH MUST BE OUR GUIDE. FEDERAL AND STATE INCENTIVES, EDUCATION, AND TECHNICAL ASSISTANCE ARE JUST A FEW OF THE MEANS WE MUST MAKE AVAILABLE TO THE FARM AND RANCH PRODUCTION COMMUNITY IN MANAGING NON-POINT SOURCE POLLUTION.

IT IS VERY IMPORTANT THAT WE COORDINATE THE EXTENSIVE WATER QUALITY PROGRAMS THAT ARE ALREADY IN PLACE AT THE U.S. DEPARTMENT OF AGRICULTURE, THE ENVIRONMENTAL PROTECTION AGENCY, AND EQUALLY IMPORTANT U.S. GEOLOGICAL SURVEY. WE COULD MAKE TREMENDOUS PROGRESS WITH VERY MINIMAL ADDITIONAL FUNDING IF WE COULD START TO GET THESE AGENCIES TO NOT ONLY SHARE DATA, BUT TO USE THE SAME DATA IN MAKING WATER QUALITY DETERMINATIONS.

THE CLEAN WATER ACT HAS BEEN TREMENDOUSLY SUCCESSFUL -- IN FACT PERHAPS IT COULD BE CALLED THE MOST SUCCESSFUL ENVIRONMENTAL LAW SO FAR -- BUT WE NEED TO REALIZE THAT THERE ARE OTHER PROGRAMS OUT THERE AFFECTING AND SHAPING WATER QUALITY AND IF WE CAN COORDINATE THESE PROGRAMS, WE WILL MAKE SUBSTANTIAL PROGRESS TOWARD THAT GOAL. MANY PROGRAMS ARE ALREADY IN PLACE AND THE FARMING COMMUNITY IS WILLING TO PARTICIPATE -- BUT THE LACK OF AVAILABLE FUNDS REMAINS A LARGE OBSTACLE IN APPROPRIATELY RESPONDING TO THESE RURAL NEEDS.

MOREOVER, WE DO NEED TO GIVE AN EYE TOWARDS FULLY FUNDING THE 319 PROGRAM. WHILE WE HAVE LARGELY FOCUSED ON POINT SOURCE POLLUTION IN THE PAST 20 YEARS AND HAVE SUCCEEDED IN SIGNIFICANTLY REDUCING POINT SOURCE PROBLEMS, WE MUST KEEP IN MIND THAT WE HAVE SPENT NEARLY 60 BILLION DOLLARS IN FEDERAL FUNDS OVER 20 YEARS, AND ALMOST 90 BILLION IN STATE, LOCAL, AND PRIVATE MONIES OVER THIS SAME PERIOD TO ACHIEVE THAT GOAL. IF WE WISH TO NOW TURN OUR FOCUS TO NON-POINT SOURCE POLLUTION, A SIMILAR DOLLAR COMMITMENT NEEDS TO BE FORTHCOMING.

MR. CHAIRMAN, I LOOK FORWARD TO WORKING WITH YOU AND THE MEMBERS OF THIS COMMITTEE TO DEVELOP AND ADDRESS THE PROBLEMS FACING THE MEN AND WOMEN OF AMERICAN AGRICULTURE AND THE PROUD COMMUNITIES IN WHICH THEY LIVE. INDEED, ONLY IF OUR NATION'S AGRICULTURAL PRODUCERS CONSERVE THEIR SOIL AND WATER RESOURCES WILL THEY CONTINUE TO MAKE A LIVING ON THE LAND AND SUSTAIN OUR RURAL CULTURE. IT IS MY HOPE THAT WE CAN SHED MORE LIGHT ON NEEDED SOLUTIONS TO THIS MATTER THAT OUR NATION'S BACKBONE, RURAL AMERICA, SO RIGHTFULLY DESERVES.

Mr. HUTCHINSON. I thank the panel for your very good presentations.

Mr. Eckel, you support continued voluntary approaches at controlling nonpoint source pollution. That seems to me to be a big debate on the evidence as to whether the voluntary approach has been successful or whether it has not. You have cited some indications that it is effective. I think the environmental panel disputed that, disputed my contention that it was working quite a bit.

If you could suggest any other evidence that it is successful or—I think I gathered from what you said that we need more time to evaluate that, that it takes some time to know how successful that has been. Could you comment on that?

Mr. ECKEL. Number one, the Farm Bureau will be pleased to provide to the committee instances and facts reflecting that, in fact, progress has been made. Secondly, yes, we do believe that it takes time to analyze the benefits of these changes. For instance, in my testimony I indicated that we had a 20 percent reduction in pesticide use since 1982. If those levels aren't indicating to be lesser than they were eight or ten years ago, I would suggest there is some type of problem with the analysis that is being done because we know that there is that much less product being used.

I also gave testimony that as far as nitrogen is concerned, we have seen a 14 percent increase in nitrogen efficiency since 1980. If we haven't at least seen that much improvement, then it would appear that the base line or the analysis is flawed and that, too, needs to be studied.

Mr. HUTCHINSON. Thank you for that. It seemed a moment ago that you acknowledged that there is financial benefits for the farmer in instituting best management practices and the reduction of the use of pesticides and so forth. With that acknowledgement, I think that the environmentalists would argue—and I suppose we all are environmentalists, so I don't want to put that as a "they"—but that if best management practices in agriculture result in significant savings to the farmer through reduction of the use of fertilizers and pesticides, why not mandate it and therefore mandate the savings for the farmer?

Mr. ECKEL. I think in mandating, what we also lack is an understanding of the education process that has to take place. Mandating doesn't mean compliance, it just means that we have a law now in place that says that it has to be done. What we really need is a strong educational and continued research effort to help our farmers develop and see the wisdom of using that technology.

Now I don't want to mislead the committee into thinking that all practices are not expensive. I will take you back unfortunately to Pennsylvania again where I am more comfortable with knowing precisely what we wrestle with. In our farming operation, we farm 1400 acres of land on 54 different farms; 44 of them are owned by other landowners, many of them absentees. A number of the practices that we're talking about are expensive land construction practices, such as the institution of diversion ditches and so forth. In those cases, that calls for long-term investment and that is not as easily achieved as some of the other instances that I was using.

Mr. HUTCHINSON. So there are two edges to this thing. There are some savings, there is also some long-term cost involved.

Mr. ECKEL. Yes, sir.

Mr. HUTCHINSON. If more stringent regulatory mandates are imposed on the agricultural community through the reauthorization of the Clean Water Act, what do you think—or anybody on the panel—will be the long-term impact on the American economy?

Mr. ECKEL. The problem we have is that additional cost is going to be swallowed by that farmer. There is a hidden cost that I would be remiss if I didn't bring to the committee this afternoon. I am 46, my brother is 55. About eight years ago we were recognized as Pennsylvania's Master Farmers. I happen to have a good friend that had that same honor bestowed on them about six years ago, the same age. The huge myriad of regulations that we are piling upon our individual farmers are coming to the point of raising the question, should we continue? At my age and, theoretically, in a successful farming operation, that should be the last question that I should be asking.

We have to find a method to streamline these regulations. In preparing this testimony, staff indicated to me eight different laws and regulations that we had to comply with in just this area. About six weeks ago I presented testimony to a different committee on labor regulations. There were 16. Gentlemen, we can't even maintain the number of regulations in our mind and all their names let alone the specific technical compliance regulations for one of them. That added cost is going to cripple our industry over time and our attitude.

Mr. HUTCHINSON. Okay. That is what I am getting at. When we talk about the impact of over-regulation, is it the cost or is it the headache and the attitude that is going to drive people out of agriculture?

Mr. ECKEL. I think it is both. Unfortunately, the second is worse than the first. We have had a lot of rain in Pennsylvania. We haven't been able to plant anything yet or work our land. Two days ago we got an opportunity to plant 13 acres of sweet corn, just for an illustration. We went to work about 10:00 in the morning when we discovered this plot of land was fit to work. We finished that night at midnight. I got up and watched the news the next morning before I went out at about 6:15 and the local news had a helicopter picture of our farm being farmed and the indication that what we may need is buffer zones with agriculture there.

I thought we had done something good for ourselves and for the consumers that day by getting 13 acres of corn planted and working until midnight that night. But there was a concern raised about what we did. No one asked why was the ground surrounding that area that was plowed was so green. The answer to that was that we have been planting living mulches on that farm for the last five years, the full five years that I have been growing on that land that protected that land from two inundations that we had in the last month from that river flooding. That whole land was covered with rye grass and is for nine months out of the year. It is one of our normal practices; not mandated but one we believe in. That really impacts how we think about this.

Mr. HUTCHINSON. I have one more question, and this may have been my misunderstanding when the Chairman questioned you, Mr. Eckel, concerning wetlands and whether we should wait. If I

understood you correctly, you said that we can't afford to wait. My question is, how in the world can you legislate, how in the world can you define—which you had spoken of earlier—and classify if we don't have a good definition yet? And if that is still in the process of being studied, how can we act intelligently and legislate responsibly without that information?

Mr. ECKEL. My belief is that there is sufficient evidence for you to make a good decision on what a wetland is. I honestly don't think that you need to wait the additional year for that information. I think that the Congress has been wrestling a long time with that definition. I think it is fairly clear in most of our minds what our important wetlands are. We don't have a problem with that; in fact, we embrace protecting the important wetlands in this country. Our future is dependent upon a good environment and how well our farmland is maintained.

Mr. HUTCHINSON. Thank you.

Mr. GENHO. May I comment briefly on that, on the wetlands?

Mr. HUTCHINSON. Sure.

Mr. GENHO. Agriculture has a great respect for science. Most of us have training in science, we look to science for answers. And we applaud the fact that there is going to be a scientific review of wetlands. The real question there though is perhaps what level of Federal jurisdiction there is over 100 million acres. And while the scientific community might shed some light on proper management of wetlands, the real question of the level of Federal jurisdiction is a political question and not a scientific question. And we think that is the question that probably needs immediate attention from Congress.

Mr. HUTCHINSON. Okay. Thank you very much. Thank you, Mr. Chairman.

Mr. APPLGATE. Thank you, Mr. Hutchinson.

Mr. Parker.

Mr. PARKER. Thank you, Mr. Chairman.

Will Rogers never met a person he didn't like. I'm a little different; I've never met a person who wasn't an environmentalist. If you take what has been said this morning, just on the face of it the only real difference between you, the business community, versus the proactive environmentalists on the previous panel is mandatory versus voluntary. But there is more to it than just that. There is a lot more to it than just that.

Everybody has got their own agenda. Laws are not made for the good; never have been. They are made for the irresponsible, both on the proactive environmental side and also on the business side. The majority of the people in your industry are good but some of them are not responsible. Those are the ones that we have to deal with. And that's a sad commentary but that is human nature.

I have got a basic question. Did any of your organizations support the Clean Water bill that was enacted back in 1987, the one that we are reauthorizing now? Did any of you support it then or did you oppose it then?

Mr. ECKEL. After consultation with staff, it was the indication to me that we did support the Clean Water Act when it was originally enacted.

Mr. PARKER. Okay. Is that true for everybody?

Mr. RALEY. It is for the 1987 Amendments, the National Water Resources Association supported those as well.

Mr. LEWIS. The Agricultural Retailers Association was just formed last year, so we weren't involved in that.

Mr. PARKER. Okay.

Mr. WENSTRAND. Likewise, we don't have enough history in the room, sir, to answer your question.

Mr. GENHO. The National Cattlemen's Association staff informs me that we did support it. We participated in the process and supported the final bill.

Mr. PARKER. All right. Does everybody agree that we need something and not just the status quo? Do you agree that something needs to be done, whatever that is and we'll talk about that. Does everybody agree that something needs to be done on the pollution side?

Mr. ECKEL. We definitely believe that in all areas of the CWA that there are areas for improvement.

Mr. PARKER. Okay. So the question comes down to exactly what we do. Everybody on the panel, except for J.I., deals with production. J.I., your industry provides the pesticides, you provide the fertilizer going out. What type of liability do you hold right now as far as your business? In your testimony, you talked about losing 20 percent of the retailers out there over the next few years if they come with a bunch of harsh mandatory requirements. What type of liability do you hold financially in your business?

Mr. LEWIS. You are referring to the possibility of us being held liable for our pollution?

Mr. PARKER. Right.

Mr. LEWIS. We, as a agriculture retailer, are licensed through a State board and through this license are regulated to the point that if we go out here and apply pesticides to a farm and it ends up in a stream or we misapply it and kill the wrong crop or anyway that we would be help responsible for what we do, we are not only liable for the damages but the reputation of our business is damaged to the point that next year they look for someone else to do that. I would say that puts you at 100 percent risk in everything you do. In order to be competitive in this market and be an environmental advocate for what you are doing, you have to do it right and you have to do it right the first time.

We use computer technology to apply chemicals. We go to training. From the time we stop in the fall until we start in the spring, our members are in training sessions. This is all to avoid the liability that you are talking about. If we don't do what we're supposed to do right, next year we won't be doing that business, someone else will, someone that is doing it right and someone that is doing it more cost-effectively.

Mr. PARKER. One of the things that bothers me is that I sit here and have watched what was accepted practice, what was deemed safe by the scientific community, by the Government, both Federal and State, we keep coming up with different products and all of a sudden then say, oh, by the way, this is no longer safe, we have found out more information about this. It is really a quagmire that we find ourselves in. And the people that live on the farm are the ones that are most adversely affected. You take somebody in west

Texas who has to drill wells, there is not a lot of water out there to begin with, and then because they put a check valve on their irrigation system—that's what they were told to do, told that was all that needed to be done—and it failed or the electricity went off and the valve didn't work and they didn't have a backup valve, which nobody told them they needed to do, and all of a sudden the pesticide is going aquifer, they are destroying their water, the water that they utilize. They are destroying their way of life, not just their economy, it is their standard of living.

We just keep moving forward so quickly, I don't know for sure that just voluntary—because the American public wants clean water—I don't know if just voluntary methods are going to do the trick. I think there has got to be something mandatory, or do you disagree with that?

Mr. ECKEL. Congressman Parker, I would disagree with that. The Chairman, in some of his remarks after the first panel, made the comment that, as I understood it, it wasn't realistic to anticipate zero risk. President Roosevelt said "We have nothing to fear but fear itself". We need to be sure that the fears that we're raising are justifiable.

The American Farm Bureau is concerned about its farmer members and its farm families. We have had a very large and widespread well testing program conducted by the county Farm Bureaus across this country, and that is part of our testimony indicating the level of water quality there. But I would urge each of you to recognize that there will always be risk to some degree. The question is to determine what is that risk and balance that against what is the benefit.

Sitting in this committee room this morning I can't help but notice all of the pictures that are related to this committee's work. All of them I would suggest, at least by the appearances of the water in them, had some impact on our water quality and the environment. But I would suggest that the balance in most of those cases was in the favor of the common good. And that is the challenge of the committee and the challenge of the Congress in the reauthorization of this Clean Water Act.

Mr. PARKER. Thank you all for coming to testify. One other statement. Ms. Rodibaugh, you represent the American Turkey Association?

Ms. RODIBAUGH. That is one of the groups that I, as a member of the National Pork Producers Council, work with in trying to protect the water quality.

Mr. PARKER. When you get ready to elect your next president, I have got several people on the Hill I'd like to nominate for president of that. [Laughter.]

Mr. APPELEGATE. Sometimes those projects are turkeys and sometimes they are pork. [Laughter.]

Mr. Ewing.

Mr. EWING. Well, she surely has some great clients. [Laughter.] They are certainly important in my State of Illinois, both turkeys and pork. So I welcome you here today.

Mr. Wenstrand, you indicate that you are an operating farmer among other things. I was interested in your testimony and in the comments that you made about voluntary programs which might

be reasonably funded by the Federal Government which might help us achieve some of our goals. I think that is, at least for my part, something that interests me. I like the carrot approach more than the stick, more than the mandatory regulations. Could you expand on that and give us a few examples of how you think that could work to enhance our efforts?

Mr. WENSTRAND. I'd be glad to and to introduce that response in reference to Mr. Parker's question on voluntary incentive efforts versus regulation. I will refer back to the study that was just released this last month in Iowa which was conducted by Iowa State and the University of Iowa and they compared those approaches. Yes, you can do it by mandatory regulatory control, there is no doubt, but the regulatory financial burden imposed upon agriculture with that approach was tremendous. I would be glad to forward that study to the committee if you would so like because it really did try and balance the regulatory versus the incentive.

But to your question. There is a revolution going on at least in the upper Midwest in tillage systems. Whether that be the result of any conservation compliance, that is debatable. The rate of change that I see that operators are undergoing is revolutionary, it is historic, and people are I think trying to do it systematically. In a no-till system, certainly the primary benefit is reduced soil erosion, decreasing the sediment problem. But you really have to take a systems approach as far as pesticide application, as far as really targeting your fertilizer use. Actually, I think some of us were considered kind of weirdos in the last few years talking about trying to increase the aerobic activity, the biological activity in our soils. So it is a systems approach.

Again, the measures, it can be with tillage enhancements, incentives to change tillage systems. It can be identifying those site-specific, as several people have mentioned, cases. And I think everybody has to understand there is a great deal of variance not only between farms and areas but also even within—even on my farm I have some flat black land but I also have a considerable amount of highly erodible hilly land. Those different situations take different managements. So my situation is different in southwest Iowa than it would be in other parts of the country.

So there just needs to be a lot of flexibility. Again, the incentive programs can be primarily aimed at best management practices which focus on tillage, pesticide, and fertilizer application techniques.

Mr. EWING. Do you think that we could do a lot better job at initiating incentive programs than we have done?

Mr. WENSTRAND. Certainly there has been indications that incentive programs have been warmly received by producers. I guess the primary example which comes to mind is the Wetland Reserve Program. When they had their initial application period they were overwhelmed with applications, not only the number but the acres as well. So I think there is indication that incentive programs work.

As far as the education, I've said to other groups that I think the discussion over the environment in the course of the last several years has raised the conscientiousness, has raised the environment up the scale for all agriculture producers. The agriculture produc-

ers out there today are increasingly involved in business planning, long-range planning, and I think when you have that situation it is easier to address environmental situations on your farm in a long-term, systematic process.

So, the incentive programs certainly work. The education and research programs, again, I think there are indications from numerous sources that those programs can be effective. The question again, will all producers do that? Increasingly so. The number of people that are interested in pursuing those efforts is increasing everyday.

Mr. EWING. Thank you.

I just would make a comment, Mr. Chairman. Coming from a farm background and being involved in farming, the comments that they make about what the farmers try to do out there, the producers, is true because I have lived it. We really see a change in attitudes.

A question to all of the panel. With your familiarity with soil and water conservation, is there enough money to do the projects we need to do in your individual counties? Do any of you know if the money runs out before the projects that are applied for?

Mr. LEWIS. I can speak to that somewhat. In our county, the primary county that I serve is Belmont County, and they usually start out by having sign ups as early as fall for next spring practices. The reason they do that is because the money is gone within just a few days of when they have the practices sign up. Within a short period of time after that, there may be some people that find that they can't comply or for one reason or another aren't going to be able to take advantage of these programs. When the small amount of money then that does come back is more than used up immediately.

I had a meeting with the people day before yesterday just before I came over here and we were talking about trying to consolidate the different departments of Soil and Water Conservation and ASC and our Extension Service and things like this. The people themselves are up in the air as to where they are going and what cost-saving measures they can take to keep their programs viable. We definitely need those programs on a county-to-county basis. We can't afford to give them up to larger consolidated geographic areas because it is just not as good for someone to come from a long way off to tell you what to do as it is for someone who is there and studies the thing day in, day out.

Mr. EWING. Would anybody else, just yes or no, there is enough money or there isn't. Anyone else have a comment?

Mr. ECKEL. We have additional needs.

Mr. EWING. One final question I wanted to ask this panel of experts in the agricultural area. From my own personal observation, a great deal of land that was designated as wetlands was incorrectly designated. It almost went straight up in the air. A drop of water wouldn't sit on it, let alone be a wetlands by anyone's definition. So when we look at changing the definition, it appears that we are losing millions of acres from what was originally very sloppily designated as wetlands, not properly designated. That's my observation. Would anyone disagree or do you agree that it was poorly designated?

Mr. GENHO. The definitions that you referred to would make everything south of Jacksonville, Florida, my home State, a wetland virtually. Clearly, those definitions were way too expansive in defining what was a wetland and were impossible for agriculture to operate with. So more realistic definitions are certainly needed as well as what is the Federal Government's regulatory authority in regulating those wetlands.

Mr. ECKEL. We would totally agree, Mr. Ewing, with your observation that the definition was applied so expansively. It encompasses land that I don't think anyone conceived to be wetlands, to the point that we had one State official, rather than Federal official, who, looking at the guidelines, indicated that a wet spot at the end of a drainage spout on a home was a wetland. I don't think that is what anyone had the intent of.

Ms. RODIBAUGH. I was just going to share I attended a wetlands tour with my Congressman a year ago. Those wetlands that we visited, on the first part of the agenda it was very obvious they were wetlands and the agricultural people along on that tour wholeheartedly agreed that there needs to be some preservation of those wetlands. Those on the afternoon session included places that had been farmed for years and, even at the time we were standing there after a big rain, showed no surface water at all or even moisture. Those are the types of things that we question and we would like the delineation to be better.

Mr. ECKEL. Thank you. Thank you, Mr. Chairman.

Mr. RALEY. If I could, Mr. Ewing.

Mr. ECKEL. Sure.

Mr. RALEY. The definition in Colorado and other places in the west has resulted in the classification as jurisdictional wetlands of lands that 99 of 100 people and many scientists would characterize as desert. And it has been extended further in several cases in Nevada to apply to activities on lands that aren't even wetlands but drain into or affect wetlands. So the definition in many respects has no practical reality to anything that has any water on it at all.

Mr. APPLGATE. Thank you, Mr. Ewing.

I would only say that Mr. Genho I think said that we need to have wetlands more finely defined; yet, as I understand from your answers before, you are not willing to want to wait for the National Academy of Sciences to do that. Mr. Hutchinson had brought up the point of how can you know what you are dealing with if you don't know what you are dealing with. What do you do? Should we wait until we get a definition or should we try to move forward, or do you think that Congress should then establish by definition what a wetland is? I don't know that we're capable of doing it.

Mr. GENHO. I'm shooting from the hip on this answer and haven't thought through this question, but the problem is that while we are waiting regulatory agencies are proceeding. So, in fact, we are not waiting. Action has gone on, a few people have been put in jails, fines are being imposed, regulations are being put in place. So the ball is rolling. I guess the concern of the agricultural community is that something definitive must happen to restrict those actions or to give agriculture a clear understanding of where they are at. And I guess we have reservations to waiting for a year and a half for our scientific review, although I think every-

one on this panel would applaud a scientific review, while the ball is still rolling. I would hope that Congress would take some action that would help define what the Federal Government's role is and give some direction to agriculture that would help us in understanding where we're going.

Mr. APPLGATE. Okay. Well I guess I could agree with that too. I think we definitely have to know what it means, what it is. We seem to be sort of floundering around with different definitions. But I think we have to have a very finely defined definition of what it is and we also have to inject some common sense into it.

Thank you very, very much for your testimony before the committee. It certainly will be extremely important to us in our work that needs to be done to try to put together legislation, and by the Grace of God we will be able to do it, and also about 218 votes.

Thank you very much.

Mr. APPLGATE. The committee stands in recess until 9:30 a.m. on May the 5th, at which time we will receive testimony from the Administrator of the EPA Carol Browner as well as the Tennessee Valley Authority and the Army Corps of Engineers.

[Whereupon, at 1:27 p.m., the subcommittee adjourned, to reconvene at 9:30 a.m. on Wednesday, May 5, 1993.]



PREPARED STATEMENTS SUBMITTED

BY WITNESSES

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**TESTIMONY OF THE**

**NATURAL RESOURCES DEFENSE COUNCIL, INC.**

**before the**

**HOUSE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION**

**SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT**

**on Reauthorization of the Clean Water Act**

**HOW WELL HAS THE CLEAN WATER ACT WORKED?**

**Robert W. Adler  
Senior Attorney  
Natural Resources Defense Council, Inc.**

**April 22, 1993**

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## INTRODUCTION

Mr. Chairman and members of the Subcommittee:

I am Bob Adler, a Senior Attorney and Director of the Clean Water Project of the Natural Resources Defense Council (NRDC).<sup>1</sup> Over the past 16 years I have worked on clean water issues, in various professional capacities, for EPA, the Commonwealth of Pennsylvania, the Municipality of Anchorage, and for environmental groups at the state and national levels.

It is a pleasure to be here to participate in hearings to address reauthorization of the Clean Water Act. You will hear this morning from a panel of witnesses who will address the full range of issues facing this Subcommittee as it crafts a clean water bill -- wetlands, polluted runoff, toxics, aquatic ecosystem protection and enforcement.

These witnesses are all affiliated with the Clean Water Network, a coalition of over 400 organizations all over the country who are working together to strengthen the Clean Water Act. These groups have endorsed a National Agenda for Clean Water, which I ask to be placed in the record along with the list of endorsing groups, Briefing Papers on Reauthorization prepared by Network groups, and the full version of this statement.

Earlier this month the Subcommittee heard from witnesses who focused on the economic price of water pollution control. Little was said about the severe harm to human health, the environment

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<sup>1</sup> NRDC is a nonprofit environmental organization representing approximately 170,000 members and supporters nationwide. NRDC has been involved in all major Clean Water Act reauthorizations, and in implementation of the law over the past 20 years.

and our economy caused by continuing water pollution. To begin, therefore, it is useful to assess the state of our aquatic resources twenty years after the Clean Water Act was passed in 1972, and to weigh the value of those resources.

NRDC searched for a comprehensive analysis of how well our aquatic ecosystems have fared since the Clean Water Act was passed. To our surprise, little work had been done on this subject. No comprehensive source was available to answer basic questions, like: How much cleaner are our rivers than they were two decades ago? Are our coastal beaches safer for swimming? Do our lakes support more fish, and are they safer to eat? What is happening to populations of fish, waterfowl and other animals that rely on aquatic habitat?

NRDC set out to fill this gap. Rather than relying only on traditional federal and state Clean Water Act program documents, however, which experts agree are of limited value in responding to our basic questions, we searched for "real-world" information on the safety of our waters for swimming, fishing and drinking; on the health of our aquatic ecosystems and the availability of important aquatic habitat; and on the status of species that rely on our rivers, lakes, wetlands and coastlines. The following is a summary of our work, which will be released in full in a book published by Island Press this summer.

SUMMARY1. Traditional Measures of Progress are Incomplete and Inadequate, but Show Substantial Ongoing Impairment of Surface Waters

According to EPA's most recent (1990) National Water Quality Inventory, we have a long way to go in meeting the goals of the Clean Water Act:

At least a third of our rivers, half of our estuaries and more than half of our lakes are not meeting designated uses, that is, are not safe for swimming, fishing and other uses. Considerably fewer waters are reported as meeting these uses in 1988-89 than in 1980-81. (In part, this may reflect better monitoring and reporting.)

But these reports are incomplete. Only 53% of river miles, 69% of lake acres, and 75% of estuarine area were "assessed" for the report. And even these claims are misleading, since "assessed" does not mean "monitored" for toxic and other pollutants. The 1990 Report was based on actual chemical measurements for less than a fifth of our rivers, streams, and lakes, and about a quarter of our estuaries.

2. New Controls have Reduced Discharges of Pollution, but We Still have a Long Way to Go

The percent of the U.S. population served by wastewater treatment plants jumped from 42% in 1970 to 67% in 1975, 70% by 1980, and 74% by 1985. EPA estimates that annual release of organic wastes have been reduced by about 46% as a result of this improved treatment, despite a large increase in the amount of wastes treated.

Industrial pollution controls have eliminated the release of almost a billion pounds of toxic pollutants each year into the Nation's rivers, lakes and coastal waters. Even higher amounts of conventional pollutants, like organic wastes and solids, have been controlled.

Still, we continue to release hundreds of millions of pounds of toxics into our surface waters each year from unregulated or poorly regulated industries, and discharges of raw or partially treated sewage continue unabated in many areas.

3. Long-term Water Quality Trends Show Inconclusive Results

Despite the existence of thousands of water quality monitoring stations around the country, very little information collected at these sites is suitable to tell us how much progress has been made in overall water quality.

The little information available to judge long-term progress shows no significant trends in overall water quality. Where improvements are evident, they are in pollutants such as phosphorus, reflecting investments in sewage treatment plants. Where deterioration is shown, it is from nitrogen, sediment, and other pollutants characteristic of polluted runoff from farms and other lands.

4. "Real-World" Measures Show Some Progress but Serious Problems Remain

a. Many Waters Remain Unsafe for Swimming

In 1991, U.S. ocean and bay beaches were closed or advisories issued against swimming on more than 2000 occasions in coastal states that monitor beach water quality. High bacteria levels were responsible for the overwhelming majority of closures. Over 5000 closures or advisories have occurred since 1988.

State water quality reports confirm that a quarter of our rivers and estuaries, a fifth of our lakes and ten percent of coastal waters remain unsafe for swimming.

b. Many Drinking Water Supplies Remain Jeopardized

The recent illnesses caused by Milwaukee's drinking water are not isolated. Reports from the Centers for Disease Control identify 525 disease outbreaks related to public water supplies from 1972-1988, affecting over 131,000 people. These numbers are conservative; some researchers believe that 25 times as many drinking water-related illnesses occur than are reported.

Between 27% and 30% of community drinking water systems reported violations of health-based standards from 1986-91.

c. Many Sources of Fish and Shellfish Remain Contaminated

In 1990, 31 states reported toxic contaminants in fish at levels exceeding action levels set by the Food and Drug Administration. Forty five states reported almost 1,000 fishing advisories in 1988-89, and another 50 complete fishing bans, due to pollutants such as PCBs, pesticides, dioxin, mercury, other metals, and other organic chemicals. These warnings affected over 7,000 river miles, almost 2.5 million lake acres, over 800 square miles of estuaries, and almost 5,000 miles of shoreline in the Great Lakes. EPA acknowledges that these reports are incomplete, and that state criteria for issuing advisories vary widely.

National data bases show some declines in chemical contamination of seafood, but increases and serious remaining problems for some chemicals, particularly in urban waters and other heavily-polluted areas. In a report released by EPA last year, almost half of the chemical forms of dioxins and furans, and a third of the other chemicals measured, were found at over half of the sampling locations. PCBs, biphenyl, mercury and DDE were found at more than 90% of the test sites. And every pollutant in the study was found in at least one location. EPA calculated that the levels of pollutants measured in fish around the country posed significant risks of cancer and other health effects for average fish consumers, and even higher risks to subsistence and recreational anglers who consume more fish from contaminated waters. Information is available, however, for only a handful of chemicals.

Sewage contamination of shellfish, however, is getting worse. The National Shellfish Register shows a 6% increase in estuarine waters closed to shellfish harvest from 1985 to 1990. By 1990, less than two thirds of our shellfish waters were unconditionally approved for shellfish harvest.

d. Aquatic Species are in Serious Jeopardy

Many more aquatic species are threatened and endangered than their terrestrial cousins: 73% of mussels, 65% of crayfishes, 34% of fishes, and 28% of amphibians are jeopardized compared to 13% of mammals, 11% of birds, and 14% of reptiles.

Between 1979 and 1989 the American Fisheries Society added 139 and removed 26 categories of fish from their list of threatened and endangered species, producing a total of 364 fishes that warrant protection due to rarity. Not a single species was removed from the list due to successful recovery efforts, while 10 were dropped because they became extinct.

e. Many aquatic and water-dependent populations are plummeting

Between 1970 and 1989, harvest of oysters dropped by 44% and landings of spiny lobster declined by 34%.

Commercial landings of striped bass have declined continuously since 1973, with a fall of 92% since 1982.

Between 1983-89 landings of bay scallops fell by 88%. Scallop landings also dropped by 50% from 1975-85, with catch per unit effort in 1985 reaching historic lows.

Duck breeding populations in North America dropped continually from 1955-1985. More recent data suggest that this trend has not been reversed. The ten species with over 97% of North America's breeding populations showed declines of 34% from 1970 to 1989.

According to data from the FWS Breeding Bird Survey, which has recorded flight records since 1966, a significant number of water-dependent species have declining population trends.

f. Pollution Continues to Cause Massive Fish Kills and Other Adverse Effects to Fish and Wildlife

From 1972-1989, EPA estimates that at least 429 million fish were killed in almost 10,000 incidents. (These data under-represent number of fish kills for several reasons.) The numbers of fish kills each year do not appear to be declining significantly.

From 1980 to 1989, NOAA reports over 3,650 fish-kill events in 533 coastal and near coastal counties in 22 states. These events involved over 407 million fish killed. In general, the total number of reported fish kills increased during the 1980s, but the average numbers of total fish killed per year declined.

Taken together, NRDC estimates that at least 1.35 billion fish have been killed in inland and coastal waters combined since the Clean Water Act was passed.

Pollutants continue to be released into our aquatic environments at levels that are toxic to aquatic species and to birds, mammals and other predators that consume contaminated fish. Studies in the Great Lakes indicate that toxic pollutants cause population declines and reproductive problems, birth defects, behavioral changes, sexual changes, and increased susceptibility to disease.

g. Aquatic Habitats are being Destroyed and Degraded at an Alarming Rate

Wetlands - At the time of European colonization the coterminous United States had an estimated 221 million acres of wetlands. More than half of this acreage has been lost through draining, dredging, filling, levies and flooding. Twenty two states have lost 50% or more of their original wetlands acreage; and ten have lost over 70%. We continue to lose an average of 260,000 acres of wetlands a year.

Fisheries - According to the 1984 National Fisheries Survey, 81% of the Nation's waters had fish communities adversely affected by a variety of factors, including 53.3% of all

perennial waters. More than one out of four provided only "minimal" support or less for healthy fish populations, and less than 4% of waters were rated as completely healthy.

Floodplains and riparian habitat - By the end of the 1970s, at least half of America's original riparian habitat had been destroyed. According to one 1979 estimate, only 23 million out of 67 million acres of the four predominant riparian vegetation types remained in the United States, a loss of 66 percent. In 1981, FWS calculated that only 26 million out of almost 56 million acres of riparian ecosystems remained in the contiguous states and Hawaii. A detailed 1992 assessment of floodplain management found that out of 75-100 million acres of indigenous, woody riparian habitat in the United States, less than half (about 35 million acres) remain in nearly natural condition. The rest have been inundated, channelized, dammed, riprapped, farmed, overgrazed, or altered by other land uses.

5. Evidence Shows that Healthy Aquatic Resources Have Tremendous Economic as well as Environmental Value

a. Commercial Fishing.

The dockside value of U.S. commercial fish landings in 1990 was \$3.6 billion, and more economic value is generated through processing and wholesaling. In 1990 the industry's total contribution to the U.S. GNP exceeded \$16.5 billion. In 1988 alone, 363,703 people were employed through commercial fisheries -- a major increase from 230,387 jobs in these industries in 1972. Protecting clean water is essential to protecting these jobs.

b. Recreational Fishing and Hunting.

In 1985, almost 60 million Americans fished for pleasure. Total expenditures for recreational fishing in 1985 exceeded \$28 billion dollars.

In 1985, an estimated four million people (two percent of the U.S. population) aged 16 or older participated in recreational shellfishing. Shellfishers estimated that they spent \$2.3 billion to participate in the sport.

According to the National Survey of Fishing, Hunting, and Wildlife Associated Recreation conducted by the Department of Interior, in 1985 3.2 million hunters spent 25.9 million days hunting waterfowl. Expenditures for waterfowl hunting totaled over \$783 million.

All forms of water-based hunting and fishing in the United States are on the rise. Comparing similar national surveys

from 1955-1985, the total number of fishers and waterfowl hunters increased dramatically over the thirty year period, resulting in a major rise in expenditures made to participate in these sports.

c. Other Water-Based Recreation.

Measured by the number of trips away from home, our most popular outdoor activities in 1987 included swimming outdoors (461 million trips per year), warm water fishing (239 million trips per year), and motor boating (220 million trips per year). In 1985, 14.8 million people visited lakes or streams, 8.4 million people went to marshes or wetlands, and 5.7 million went to the ocean. (The Interior Department reported an even higher number of outdoor (non-pool) swimmers in 1982.)

As with recreational hunting and fishing, other forms of water-based recreation are on the rise as well:

- \* Visitors to National Seashores and Lakeshores jumped from 18 million in 1981 to over 23 million in 1988.
- \* The number and value of recreational boats in the U.S. almost doubled from 1970 to 1989, with expenditures on recreational boating quadrupling.

Direct and indirect expenditures on boating (boats, motors, equipment, fuel, insurance, etc.) doubled from \$11 billion in 1970 (1990 dollars) to almost \$20 billion in 1988. This activity supports over 6,200 manufacturers of boats, trailers, motors and accessories, as well as over 8,300 marinas, boatyards and yacht clubs. The recreational marine industry provides jobs for about 600,000 people.

A case study in Florida highlights the tremendous importance of swimming-related tourism. Florida beach users generated a total of \$2.3 billion in economic benefits in 1984. This included direct expenditures of \$1.8 billion (almost 1.5 percent of total gross sales in the State), over \$400 million in payroll for about 84,000 jobs, and tax revenues of almost \$95 million.

d. Intangible Values

Some economists are beginning to assess economic values to intangible environmental benefits through techniques such as contingent valuation surveys. In a 1991 study conducted by Resources For the Future, the economic benefit of achieving the national swimmable water quality goal was estimated at \$29.2 to 46.6 billion per year in 1990. Clearly, the public

places a large economic "value" on even the intangible benefits of our aquatic resources.

Public willingness to pay for the intangible values of water resources is confirmed by of waterside property values:

- A 1983 study estimated that properties on polluted St. Alban's Bay on Lake Champlain, Vermont were selling for \$4,500 less than similar properties elsewhere on the Lake, with a total property value loss of \$2 million.
  - Water quality improvements in the Lower Willamette River near Portland, Oregon led to residential property increases of 16 to 25 percent.
  - Reduction of water pollution in San Diego Bay in the 1960's resulted in an approximately 8 percent rise in residential property values.
- e. Wetlands.

An estimated 50 million people spend nearly \$10 billion annually to observe and photograph wetland-dependent birds.

Wetlands sustain much of the country's seafood. In the Southeast, 96 percent of the commercial catch and over 50 percent of the recreational catch is dependent on estuarine and other coastal wetlands. Estimates of the value of coastal wetlands to commercial and recreational fisheries range from about \$2200/acre on the Pacific coast to almost \$10,000/acre along parts of the Florida coastline.

A 1981 case study at Tufts University evaluated 8535 acres of wetlands in the Charles River Basin, Massachusetts. The following is a break-down of the conservative estimated economic benefits of one acre of Charles River Basin wetland in 1978 dollars: flood prevention (\$33,370), local amenity (\$150 - \$480), nutrient reduction (\$16,960), water supply (\$100,730), recreation (\$2,145 - \$38,469). The total long-term worth of just one acre was estimated to lie between at \$153,000 - \$190,009. Not bad for "just a swamp."

ARE OUR WATERS BETTER OFF THAN THEY WERE 20 YEARS AGO? HAS THE CLEAN WATER ACT PROTECTED PEOPLE AND AQUATIC ECOSYSTEMS?

The Clean Water Act is implemented by EPA, 50 states (plus a number of territories and interstate agencies), and thousands of localities. Its goal is to restore and maintain 3 million miles

of rivers, almost 27 million acres of lakes, and over 35,000 square miles of estuaries.<sup>1</sup> Some of these waters are monitored frequently, others less often, and many not at all. To fill these gaps in knowledge, NRDC looked at three measures:

1. The traditional state reporting system under section 305(b) of the Act, under which states identify waters that meet designated uses. These measures are of only limited value in measuring progress in meeting the goals of the Act.
2. Direct measures, such as pounds of pollutants removed and long-term, national trends in water quality. These measures show progress in protecting waters from chemical insults, but that we have a long way to go in eliminating toxic chemical pollution.
3. Real-world measures such as the presence of pollutants in drinking water or in fish and shellfish; numbers of beaches and shellfish beds that remain closed due to pollution; or the health of aquatic species and aquatic ecosystems. These real-world measures present a far more complete and balanced picture of how well the Clean Water Act has protected human health and aquatic ecosystems, and show that much more work remains than is apparent by looking at chemical data alone.

#### I. Attainment of "Designated Uses"

The Clean Water Act requires states to submit an analysis of water quality to EPA every two years, including an assessment of which waters meet water quality standards. EPA analyzes these reports and submits a comprehensive analysis to Congress every two years.<sup>2</sup> These reports are known as the "National Water Quality Inventory." The first inventory was released in 1974; the most recent was issued in 1992.

Using these tools, it would seem relatively simple to evaluate how well the Act has worked, by comparing the

information in each of EPA's National Water Quality Inventories to determine how many waters have improved or degraded. In fact, this analysis is complicated by a host of problems, including significant changes in the data available over the years, and in procedures used for analyzing and presenting the information.

Early 305(b) reports were extremely cursory, and based on a very small percentage of waters. The 1974 report attempted to characterize water quality in just 22 major waterways.<sup>3</sup> In general, little monitoring data were available for these waters, and water quality criteria existed for only a few pollutants.<sup>4</sup>

The 1990 National Water Quality Inventory, by contrast, is based on information from 51 states and territories and thousands of monitoring stations around the country. The Report includes summaries of compliance with water quality standards in each state, broken down by type of water and reasons for impairment. Clearly, one cannot simply compare the 1974 Report with the 1990 Inventory and draw conclusions about progress.

Even the 1990 Report, however, is hardly comprehensive. Only 53% of river miles, 69% of lake acres, and 75% of estuarine area were "assessed" for the report.<sup>5</sup> And even these claims are misleading, since "assessed" does not mean "monitored" for toxic and other pollutants. The 1990 Report was based on actual chemical measurements for less than a fifth of our rivers, streams, and lakes, and about a quarter of our estuaries.<sup>6</sup>

EPA acknowledges serious problems with the 305(b) system, and severe inconsistencies in state reporting:

Unfortunately, the current value of the 305(b) reports as a source of environmental indicator data is severely limited. There are very large inconsistencies among States in how water quality data are generated, analyzed and reported. States assess different subsets of their waters from one year to the next. In some instances, States even change their accounting of total waters from one year to the next. One problem in using this information for national reporting purposes stems from the considerable discretion that States have under the law in developing their own water quality standards. ... As a result ... making comparisons between States or trying to assess national status and trends is essentially impossible. And the inconsistencies in sampling design from year to year make it difficult to assess trends even within individual States.<sup>7</sup>

Despite these problems, it is possible to compare the last several Water Quality Inventories, which are now issued in a relatively standard format, using relatively consistent terminology. This analysis produces surprising results. Considerably fewer waters are reported as meeting designated uses in 1988-89 than in 1980-81, for all three types of waters. At least a third of our rivers, half of our estuaries and more than half of our lakes are not meeting designated uses. (For a number of reasons it is likely that use impairment is under-reported.)

There are several possible explanations for this trend. First, the total percent of waters assessed and the number of states reporting increased steadily over the past decade. Second, it is possible that the standards by which we measure use attainment are improving, or getting stricter. EPA is making some progress in expanding the criteria by which use impairment is judged, leading some states to report higher levels of impairment than in previous years. Finally, it is possible that the traditional measures of pollution reduction and water quality

used to define success are masked by other types of effects on aquatic ecosystems, such as degradation or elimination of aquatic habitat, or concentration of pollutants over time even where current releases have been reduced.

The most recent National Water Quality Inventory demonstrates that while progress has been made, even the interim goals of the Clean Water Act have not been met. Clearly we have not yet met the interim "fishable and swimmable" goal of the law, which was supposed to be met by 1983, much less the long-term goal of restoring the integrity of the Nation's waters.

## II. Direct Measures of Pollution and Water Quality

### A. Pollutant Reductions

The federal government has invested \$56 billion in municipal sewage treatment since 1972,<sup>8</sup> with total federal, state and local expenditures of over \$128 billion. The percent of the U.S. population served by wastewater treatment plants jumped from 42% in 1970 to 67% in 1975, 70% by 1980, and 74% by 1985.<sup>9</sup> EPA estimates that annual release of organic wastes have been reduced by about 46% as a result of this improved treatment, despite a large increase in the amount of wastes treated.

The same measure viewed from the opposite direction, however, shows a glass only half full. In 1990 EPA estimated that additional municipal wastewater treatment needs through the year 2010 would exceed \$110 billion (in 1990 dollars).<sup>10</sup> Judged by these investment needs, our municipal pollution control

efforts have taken a giant step since 1972, but we are still only half way to our destination. Some of these needs are for advanced treatment systems to reduce nutrients; but others are still to tackle ongoing releases of raw sewage into the Nation's waters. It is estimated that combined sewer overflows alone discharge between 3 and 11 billion pounds of solids, and from 1 and 3 billion pounds of organic matter each year.<sup>11</sup>

Similar gains are evident in the industrial sector. In 1973, industry spent about \$1.8 billion on water pollution controls (including both capital and operating expenses). By 1986 this had jumped to almost \$6 billion.<sup>12</sup> Total industrial pollution control expenditures over this period exceed \$55 billion. But new water pollution equipment expenditures seem to have peaked in the late 1970s, reflecting a substantial curb in EPA's issuance of new industrial water pollution controls.

Again, these investments have reaped dividends in pollution reductions. According to EPA estimates, industrial pollution controls implemented in 22 industries since 1972 -- under a Consent Decree between EPA and NRDC -- have reduced releases of selected "priority"<sup>13</sup> toxic organic pollutants by 99% for these industries, or by almost 660,000 pounds per day. Reductions in toxic metals are estimated at almost 98%, or over 1.6 million pounds per day.<sup>14</sup> All told, assuming EPA's estimates are correct, these controls have eliminated the release of almost a billion pounds of toxic pollutants each year into the Nation's

rivers, lakes and coastal waters. Higher amounts of conventional pollutants (organic wastes and solids) have been controlled.<sup>15</sup>

As with sewage plants, however, the picture looks different from the angle of how much pollution continues to be released by industries. According to EPA's most recent "Toxic Release Inventory" (TRI), in 1990 U.S. industries released almost 200 million pounds of toxics into surface waters, over 2.5 million pounds of which may cause cancer. Almost another 450 million pounds a year are released into public sewers. These numbers are far from complete.<sup>16</sup> EPA estimates that a large percentage of those required to report under TRI fail to do so. And a large number of toxic chemicals and facilities that generate toxics are not even covered by the system.<sup>17</sup> Hazardous waste treaters alone, for example, are not covered by TRI but release over 300 million pounds of toxics into waters and sewers each year. These wastes included over 200 toxic pollutants, at least 60 of which may cause cancer, and at least 23 of which may cause birth or genetic defects.<sup>18</sup> And EPA acknowledges that the availability and quality of data is limited, especially for toxics.<sup>19</sup>

#### B. Long-Term Water Quality Trends

Despite tens of thousands of water quality monitoring stations around the country, relatively little information is useful for long-term trend analysis. There is significant variation in monitoring and analytical methods, water quality parameters measured, and consistency of data. Some stations have

been in place for long periods of time, others for only short durations. As explained by experts at USGS:

Despite expenditure of hundreds of millions of dollars annually on water quality data collection, there is a paucity of data ... that are suitable for a scientifically defensible national water quality trends assessment... Long-term data collection programs have been conducted by many state agencies; however, most of these data are derived from grab samples, which may not be representative of the cross-sectional character of stream quality. In addition, discharge records are not available for many of the state stations, and changes in laboratory procedures used throughout the period of data collection are often not well documented. ... From the standpoint of longterm trend analysis, the shortcomings of state water quality data are widespread enough to preclude their inclusion in a national data base, which must have reasonably uniform geographic coverage.<sup>20</sup>

EPA agrees that while a large amount of water quality information is gathered, most is not collected or stored in a way that allows one to identify trends.<sup>21</sup> One commenter referred to our water quality knowledge as "data-rich but information-poor."<sup>22</sup>

One exception is the USGS National Stream Quality Accounting Network (NASQAN), with 403 stations nationwide located at USGS stream gauging stations.<sup>23</sup> Because this program is run by a single federal agency, it can assess national trends without the problem of variations among state programs. However, the number and location of total monitoring stations and the scope of pollutants measured is quite limited.

In an evaluation of data from 1978 to 1987, the majority of NASQAN stations showed no significant trends. This probably reflects the fact that most of the stations are relatively removed from major point sources. Thus, the data are most likely to reflect water quality effects from land use and atmospheric

deposition than from discrete sources, and not likely to reflect the reductions in pollutant loads discussed above. This does not mean that the point source reductions we have achieved are insignificant; it means that the impacts of this pollution, and its reduction, are more localized than can be measured by 400 stations distributed across the country, which are not located to detect the impacts of point source pollution reductions.

Definite trends were detected, however, in concentrations of some pollutants. For total nitrogen, about 77% of streams that showed significant trends were degraded, as were over 80% of the trends for dissolved solids. These trends are consistent with increased runoff from agricultural sources. For phosphorus about 85% of streams that showed trends were downward, which may reflect reductions from some point sources<sup>24</sup> (sewage treatment plants). For other pollutants, such as oxygen deficit, bacteria, and metals, most stations reflected no trend; but where trends did occur, they reflected improvements that would be expected due to point source controls. Even here, some stations reflected water quality degradation for many pollutants. Thus, across-the-board improvements in water quality are not shown for many pollutants. Notable exceptions were lead, zinc, chromium, silver and arsenic, where only a handful of stations showed upward trends. In the case of lead, these reductions can be explained by the elimination of a major pollution source -- lead in gasoline which formerly reached waterways through runoff.<sup>25</sup>

### III. Real-World Measures of Progress

#### A. Human Health Continues to be Threatened

The Clean Water Act was enacted in part to address concerns about public health -- polluted drinking water, contaminated fish and shellfish, and swimming beaches laden with bacteria. Conditions have improved somewhat in all three areas. Fish no longer is laced with the extreme concentrations of mercury and DDT found in the 1960s. Most public drinking water supplies are tested and treated at least for bacterial contaminants, and some for toxics. And bacteria levels have declined in many of the Nation's most polluted waters.

But most people still cannot drink from their taps, eat the catch from their favorite fishing hole, or take their family to the local beach or lake with full assurance that they will not become ill or face long-term, chronic health threats.

##### 1. Swimming and Beach Closures

EPA's National Assessments report how many waters the states believe are "swimmable". According to the 1990 report, the Clean Water Act's swimmable goal is met in about three quarters of our rivers and estuaries, over 82% of our lakes and almost 90% of our ocean waters. Even these numbers lead us to conclude that, almost a decade after the 1983 goal for swimmable waters, a large number of water bodies are not safe for swimming.

A more telling assessment of beach closures from 1989-91 is available in NRDC's Testing the Waters: A National Perspective on Beach Closings, issued in July, 1992. The major findings of

this report indicate that we are indeed a long way from achieving the swimmable waters goals of the Act, or even from getting an accurate handle on the full scope of the problem:

- \* In 1991, U.S. ocean and bay beaches were closed or advisories were issued against swimming on more than 2000 occasions in coastal states that monitor beach water quality. High bacteria levels were responsible for the overwhelming majority of cases. Over 5000 closures or advisories occurred since 1988.
- \* Most of the closures and advisories were in densely populated coastlines of New York, New Jersey, Connecticut; 588 others were in southern California from San Diego to Los Angeles.
- \* Ten states monitor their beach waters infrequently if ever (AL, GA, LA, MS, NH, NC, OR, SC, TX, WA); 8 others monitor portions of their coasts (CA, DE, FL, ME, MD, MA, RI, VA); only 4 monitor the whole coast (CT, NJ, NY, DE).
- \* States have highly inconsistent water quality standards for sewage contamination, and inadequate (and largely nonmandatory) beach closing standards and criteria.
- \* Lack of federal leadership has resulted in the complete absence of monitoring in some states, and substantial variations in methods and closure standards. Only 7 of 22 coastal states use EPA's recommended indicator and only 4 states use EPA's recommended testing method.
- \* Levels of protection vary -- among 22 states surveyed, there were 11 different bacteria standards for swimming; in 7 states standards vary within the state.
- \* Only Connecticut, New Jersey and Delaware consistently close beaches every time bacteria water quality standards are violated.
- \* Some states issue prompt warnings, while others wait weeks or even months to publicize unsafe conditions.

## 2. Pollution of drinking water

The only reliable, comprehensive information on trends in drinking water quality is available from the Centers for Disease Control, which track water-borne disease outbreaks.<sup>26</sup> These

reports identify 525 disease outbreaks related to public water supplies from 1972-1988, affecting over 131,000 people.

Outbreaks reported between 1971 and 1985 represent more outbreaks of disease than in any previous 15-year period since 1920.<sup>27</sup>

These numbers are conservative, since CDC acknowledges that the number of reported waterborne disease outbreaks represents a fraction of the total number that occur. EPA reports that some researchers believe that there are 25 times more actual illnesses from contaminated drinking water than are reported. 52 Fed. Reg. 42181, 183 (1987). If correct, from 1972 to 1988 this would translate to illnesses affecting over 3.2 million people!

In terms of trends, the number of outbreaks per year generally increased between the early 1970s and the early 1980s, and then dropped down again between 1984 and 1988. Total illnesses vary quite widely from year to year, reflecting high variations in the numbers of people affected per outbreak. This involves not just the severity of the incident but the size of population served by the system. Notably, the highest number of total illnesses in a single year was in 1987, indicating that serious problems remain with the quality of our drinking water. And the recent disease outbreak in Milwaukee underscores that the nation's raw drinking water supply continues to be threatened.

A second nationwide perspective comes from an analysis of drinking water standards violations around the country.<sup>28</sup> The maximum contaminant level (MCL) compliance rate for community water systems (CWS) remained between 70% and 73% from 1986 to

1991. This figure represents the number of MCL violations reported to EPA. In other words, between 27% and 30% of community drinking water systems reported violations of health-based standards during these years.

### 3. Fish and shellfish contamination

Americans are eating fish in record amounts. Average annual consumption jumped from about 12.5 pounds per person in 1972 to 15.5 pounds in 1990, and is expected to increase more in the future. And of course, there is a long and rich history of enjoyment of seafood in America for cultural and aesthetic reasons, especially in coastal areas.

Evidence indicates that levels of some contaminants are declining in parallel with reduced releases of toxic chemicals, but some remain above levels at which serious health effects can occur. In some areas, especially for pollution caused by raw or partially treated sewage, the situation appears to be getting worse. And unfortunately for both the public and the seafood industry, an increasing number of waters are being closed to commercial and recreational fishing.

In the 1990 National Water Quality Inventory, 31 states reported toxic contaminants in fish at levels exceeding action levels set by the Food and Drug Administration.<sup>29</sup> Forty five states reported almost 1,000 fishing advisories in 1988-89, and another 50 complete fishing bans in 1988-89, due to pollutants such as PCBs, pesticides, dioxin, mercury and other metals, and other organic chemicals. These warnings affected over 7,000

river miles, almost 2.5 million lake acres, over 800 square miles of estuaries, and almost 5,000 miles of shoreline in the Great Lakes.<sup>30</sup> EPA acknowledges that these reports are incomplete, and that state criteria for issuing advisories vary widely.<sup>31</sup>

A number of national data bases are available to evaluate general trends in seafood contamination. These include the Fish and Wildlife Service's National Contaminant Biomonitoring Program (NCBP) for inland waters, NOAA's National Status and Trends and Mussel Watch Programs for coastal waters, and the National Shellfish Register for shellfish beds.

#### The National Study of Chemical Residues in Fish

Last year EPA released the results of a five-year effort to evaluate toxic chemicals that may be bioaccumulating in fish.<sup>32</sup> This effort, originally called the National Bioaccumulation Study, tested for the presence of 60 pollutants in 119 species of fish collected from 314 water bodies. Test sites were chosen based on predicted impacts from point sources or polluted runoff, but others were selected to reflect background conditions.

The results of the EPA study are sobering. Almost half of the chemical forms of dioxins and furans, and a third of the other chemicals measured, were found at over half of the sampling locations. PCBs, biphenyl, mercury and DDE were found at more than 90% of the test sites. And every pollutant in the study was found in at least one location.

There was wide variation in the amounts of pollutants in samples. Nevertheless, EPA calculated that the levels of

pollutants measured in fish around the country posed significant risks of cancer and other health effects for average fish consumers, and even higher risks to subsistence and recreational anglers who consume more fish from contaminated waters.

The National Study of Chemical Residues in Fish has obvious limitations in terms of establishing national trends. Only a limited number of pollutants were tested at a limited number of sites. Moreover, the study was not designed to establish trends. Nevertheless, the EPA report presents the most current and most comprehensive evidence that freshwater fish around the country are contaminated by a wide range of toxic chemicals at levels that pose severe human health threats.

The National Contaminant Biomonitoring Program (NCBP)

The results of EPA's study are largely consistent with the Fish and Wildlife Service's National Contaminant Biomonitoring Program. NCBP findings are summarized in two recent reports tracing contaminant levels in inland waters from 1976-1984, for toxic metals and organic chemical pollutants respectively.<sup>33</sup> The data show many victories, but significant remaining battles. Levels of toxic metals in fish tissue declined for some metals (arsenic, cadmium, copper, zinc and selenium) from the mid-1970s to the early-1980s, and then leveled off. Mercury levels had already declined by more than 25% between the late 1960s and 1974, but showed no appreciable change thereafter. The pollutant that showed the most consistent decline was lead, in conjunction with the phase-out of lead as a gasoline additive.

Despite this general decline, however, detectable levels of toxic metals remain in most fish sampled, often at levels of health concern. While there is considerable difference of opinion about "safe" levels of toxic pollutants in fish, a range of criteria used by various countries is presented in an EPA Guidance Manual.<sup>34</sup> Average measured concentrations exceed at least the low-end of this range for all of the tested metals except copper, lead and zinc; and the maximum detected levels were well into this range for all of the metals. For all pollutants except cadmium and copper, contaminant levels were increasing in one or more monitoring station, and in a third of all stations for zinc.

Similar trends are apparent for pesticides and other chlorinated organic chemicals, such as PCBs. Concentrations of some pollutants appear to be declining, while others remained constant or declined initially and then leveled off. While these data show some improvement, substances such as PCBs, DDT and other pesticides continue to be found in fish long after the use of these chemicals was banned. Average levels of contamination remain at levels of concern for the pesticides endrin, chlordane and toxaphene (again measured against the low end of EPA's reported range of criteria used by various countries).

#### The National Status and Trends and Mussel Watch Programs

NOAA maintains a monitoring network to measure sediment and fish and shellfish contamination in estuaries and coastal waters. The program is limited to a small number of pollutants, and does

not include most industrial or agricultural chemicals currently in use. Moreover, because it is designed primarily to address ambient conditions in isolated locations,<sup>35</sup> the monitoring locations were not selected to "find" contaminated areas.

On a national scale, this program shows that contaminant levels are decreasing for most of the pollutants measured. Levels of most toxic metals were either relatively level or decreasing. However, the only pollutant for which all sites showed decreasing levels was PCBs (which are no longer in use), while all other pollutants showed some sites improving and some degrading. In the case of lead, mercury and selenium, more sites deteriorated than improved, and overall showed a worsening trend in copper. Notably, copper is the only of the metals tested for which overall national use has increased during the period of this program. Society's use of a chemical clearly is linked directly to its eventual presence in the environment.

While the monitoring locations were not selected to detect toxic "hotspots," the most polluted areas predictably were in heavily-populated urban areas. These include sites near Boston, New York, San Diego, Los Angeles and Seattle. Water bodies with particularly high levels of contamination include Long Island Sound, the Hudson/Raritan Bay Estuary, portions of the Chesapeake Bay, and Puget Sound.

#### The National Shellfish Register

Unlike chemical contaminants, overall contamination of coastal waters by sewage and other sources of pathogens appears

to be getting worse. The National Shellfish Register<sup>36</sup> shows that estuarine waters in which shellfishing was banned increased by 6% from 1985 to 1990. By 1990, less than two thirds of our shellfish waters were unconditionally approved for shellfish harvest. (While shellfish waters were degrading on the East and Gulf coasts, however, they appear to be improving in the West.)

This high level of contamination of coastal waters by sewage and other sources of bacteria and other biological contaminants is consistent with high reported levels of seafood-associated disease outbreaks, although "... it is likely that only a small fraction of seafood-associated disease is reported and that the two available data bases therefore reflect only a small fraction of the actual number of seafood-associated illnesses that occur."<sup>37</sup> An FDA data base includes 5,342 cases of seafood-borne illness from 1987-1987; while CDC reported 3,271 shellfish-related cases and 203 cases other during same period.<sup>38</sup>

B. Aquatic species and ecosystems are in jeopardy

The second dominant motivation for the Clean Water Act was the awareness that aquatic ecosystems were in serious jeopardy. The most direct indication of biological integrity is the health of the species that inhabit an ecosystem. Unfortunately, judged by the health of both aquatic and aquatic-dependent species, and of the habitats needed to support them, we are failing to meet this most fundamental goal of the Clean Water Act.

1. We are losing aquatic and water-dependent species

Spotted Owls and Red Squirrels have captured headlines in the struggle to preserve habitat for endangered species. Without minimizing the serious threats faced by terrestrial species, evidence shows, at least in North America, that fish and other species that inhabit or rely heavily on our aquatic ecosystems are actually faring much worse than their land-dwelling cousins.

The Nature Conservancy evaluated the status of selected animal groups in North America, and found that aquatic species dominated the list of animals that are rare or threatened. While 13% of mammals, 11% of birds, and 14% of reptiles are threatened, much larger proportions of aquatic species are in jeopardy:

Amphibians	-	28%
Fishes	-	34%
Crayfishes	-	65%
Mussels	-	73%. <sup>39</sup>

Trends in aquatic biodiversity

In 1964, Dr. Robert Rush Miller of the University of Michigan published the first list of endangered fishes. He characterized 38 species as endangered, and 21 as "urgently threatened."<sup>40</sup> By 1979, the American Fisheries Society (AFS) compiled a more comprehensive list of 251 North American fishes designated as endangered, threatened, or of special concern.<sup>41</sup>

The Clean Water Act has done little to reverse this trend. When AFS revisited its catalog of threatened and endangered fishes a decade later, in 1989, the situation had deteriorated severely. The 1989 list added 139 new taxa and removed 26, producing a total of 364 fishes that warrant protection due to

rarity. These include 147 characterized as of special concern, 114 as threatened and 103 as endangered. Most of the species (254 out of 364) are in the United States.<sup>42</sup> Not a single species was removed from list due to successful recovery efforts, while 10 were dropped because they had become extinct. Of the species that changed categories, 7 improved, 24 declined, and 18 were reclassified for other reasons.

AFS experts concluded that the factors that threaten most fishes changed little since the 1979 classification: "Habitats continue to be degraded through human activities associated with agriculture, mining, industry and urban development, while harmful exotic species continue to be introduced and native fishes are transplanted beyond their natural ranges."<sup>43</sup> Overuse was a relatively minor factor and for only a few species. AFS predicted an increased rate of extinction if trends continue.

But fishes are not the only category of aquatic and aquatic-dependant species in jeopardy. In addition to 90 fishes, the current FWS list of threatened and endangered species includes 13 snails, 42 clams and mussels, and 10 aquatic crustaceans.<sup>44</sup> Even among the threatened and endangered species not strictly considered aquatic, many species on the list rely heavily on aquatic ecosystems. The mammals include marine mammals such as the Florida manatee, stellar sea lion, and southern sea otter; wetlands or beach-dwelling species such as beach mice, voles and shrews; and better known cases such as the Florida panther, whose habitat in the Everglades is facing increasing pressure

from development. Currently-listed bird species include waterfowl and other species that use wetlands and other waters for food, nesting, staging, and other critical habitats. These include the Whooping crane, Mississippi sandhill crane, several species of ducks and geese, Everglades snail kite, Brown pelican, Piping plover, wood stork, and others.

Trends in aquatic and other water-dependent populations

Population levels are declining in many aquatic species and other species that depend on aquatic ecosystems. Many seafood populations are on the rise, such as American lobster, landings of which have risen by more than half over the past twenty years.<sup>45</sup> But other indicators are more ominous:

- \* Between 1970 and 1989, harvest of oysters dropped by 44% and landings of spiny lobster declined by 34%.
- \* Commercial landings of striped bass have declined continuously since 1973, with a fall of 92% since 1982.
- \* Between 1983-89 bay scallop landings fell by 88%. Landings also dropped by 50% from 1975-85, with catch per unit effort in 1985 reaching historic lows.<sup>46</sup>

On a regional basis, losses can be devastating:

- \* Between the mid-1960's and mid-1980's, Chesapeake Bay landings declined dramatically: hickory shad down 96%, alewife and blueback herring down 92%,<sup>47</sup> striped bass down 70%, and American shad down 66%.
- \* Columbia River basin salmon and steelhead (2.5 million fish) have declined an estimated 75-84% from estimated historic levels of 10-16 million fish. Approximately 70% of those that remain are produced in hatcheries as mitigation for dam effects, as more than 55% of the Columbia River basin has been blocked by dams.<sup>48</sup>
- \* Sacramento River winter run Chinook salmon have declined 99% in the past 20 years, and they are now listed as "threatened" species.

- \* English sole landings from Puget Sound have declined in recent years from a high of 2.4 million pounds to a low in 1987 of 0.7 million pounds.
- \* The commercial carp fishery in the Illinois River has virtually disappeared, dropping from over 15 million pounds in 1908 to 4 million pounds in 1950 and 213 thousand pounds in 1973.<sup>49</sup>

Again, these trends are not limited to species that spend all of their time in the water. Waterfowl populations in general have plummeted over the past quarter century. According to CEQ's 1989 national assessment of environmental trends, Duck breeding populations in North America dropped continually from 1955-1985. More recent data suggest that this trend has not been reversed. The ten species with over 97% of North America's breeding populations showed declines of 34% from 1970 to 1989.<sup>50</sup> And waterfowl are not the only water-dependent birds showing serious declines. According to the FWS Breeding Bird Survey, which has recorded flight records since 1966, a significant number of water-dependent species have declining population trends.

#### Fish kills

The U.S. Public Health Service began reporting pollution-caused fish kills in 1960. On passage of the Clean Water Act in 1972, this function was transferred to EPA. Summary reports were prepared by EPA for 1961-1975 and 1977-87;<sup>51</sup> and data for 1988-89 are available in the 1990 National Water Quality Inventory.

Unfortunately, these data show little if any progress in stopping fish kills caused by pollution. From 1972-1989, EPA estimates that at least 429 million fish were killed in almost 10,000 incidents. These data under-represent the number of fish

kills for several reasons: (1) reporting is voluntary and some states do not participate; (2) some fish kills go unnoticed; others are not included in reports because causes are not known; (3) data are lost where investigation is delayed, because fish are washed away and pollution is diluted; and (4) the number of fish estimated to be killed often is conservative; in some cases, as much as 80% of the dead fish cannot be counted because of turbid water or settling to the bottom.<sup>52</sup>

The numbers of fish killed each year have fluctuated widely because total kills in a given year may be skewed by catastrophic single events. For example, about 17 million fish were killed in 1972. This number jumped to almost 39 million in 1973 and skyrocketed to over 119 million in 1974, but then dropped back to just over 16 million in 1975. At first blush, it appears that these levels have dropped in recent years. States reported 200 million fish killed from 1977-85, an average of 22 million per year over those nine years. Reported fish kills then dropped to six million a year in 1986-87, and increased again to 13 million a year in 1988-89. But these numbers are skewed by extreme variations in the numbers of states reporting fish kills during certain periods. Reporting dropped from all states in the early 1970s to an average of 36 states from 1977-85, a low of 24-26 in 1986-87 and 42 in 1988-89. When reported fish killed are normalized to reflect these differences, a different picture emerges, showing little if any actual reductions.

Trends in numbers of fish kill incidents show less variability from year to year, and hence are somewhat better indicators of overall progress. Here, a comparison actually suggests an increase in the average number of fish kills each year. Not adjusting to reflect differences in numbers of state reports, there were generally 750 incidents per year from 1972-75, about 625 per year from 1977-85, less than 500 per year from 1986-87, and about 680 per year in 1988-89. But adjusted to reflect variations in the number of states reporting, the trends suggest an increase from roughly 750 incidents per year in the early 1970s to between 800-1000 incidents per year in the late-1970s-1980s. While this increase may reflect better detection and reporting by those states that reported in the later years, the data reflect that large numbers of fish kills continue two decades after the Clean Water Act was passed.

A second source of data indicating trends in fish kills is available from NOAA, which tracks fish kills in coastal waters. From 1980 to 1989, over 3,650 fish-kills were reported in 533 coastal and near coastal counties in 22 states. These events involved over 407 million fish killed. The number of events reported was highest in 1986 (519) and the greatest number of fish killed was in 1980 (138 million).

Taken together, NRDC estimates that at least 1.35 billion fish have been killed in inland and coastal waters combined since the Clean Water Act was passed.<sup>53</sup> These trends show that much

more progress is needed to eliminate sources of pollution that generate major fish kills.

#### Aquatic Toxicity

There is increasing evidence that even extremely low levels of toxic pollutants can cause a wide range of health effects to fish and wildlife. Particularly for pollutants that are persistent and bioaccumulative, this information shows that pollutants continue to be released into our aquatic environments at levels that are toxic to aquatic species and to birds, mammals and other predators that consume contaminated fish. A 1991 report by the National Wildlife Federation and the Canadian Institute for Environmental Law and Policy summarized the effects of toxic contaminants in the Great Lakes area:<sup>54</sup>

**Population Declines and Reproductive Problems** - Bald eagles in the Great Lakes have lower reproductive rates than eagles living inland. There are no longer any minks within a five mile radius of Lake Ontario. Fifteen kinds of birds, animals, and fish in the Great Lakes have had reproductive problems and/or population declines since the 1950s.

**Birth Defects** - Twisted beaks and deformed eyes cause many fish-eating cormorants and terns from Green Bay and Saginaw to die from starvation. Double crested cormorants in four island colonies of Green Bay were born with bill defects 42 times more than in colonies outside the Great Lakes region. Missing brains, missing eyes, internal organs located outside the body, and deformed feet and wings are other abnormalities found in Great Lakes wildlife. Birth defects occurred in almost 50 percent of the species studied.

**Behavioral Changes** - There is increasing evidence that behavioral changes risk the survival of Great Lakes species -- gulls ignore their eggs; terns leave their eggs at night, leaving them vulnerable; young lake trout swim upside down. Six species of wildlife show serious behavioral changes.

**Sexual Changes** - Male herring gulls from Lake Ontario were found with female organs. Similar abnormalities were found in minks and lab animals. It is thought to be caused by the

similarity in structure of PCBs, DDE, and other pesticides to female hormones.

**Increased Susceptibility to Disease** - Beluga whales, terns, and herring gulls have suffered a suppression of their immune systems.

Information from other regions suggests that the Great Lakes findings are not isolated. For example:

- \* Exposure of adult English sole to contaminants (1) causes failure of egg development in some of the fish; (2) of those which do produce eggs, it interferes with the timing of their spawning; and (3) of those which do spawn on time, it results in deformed young. Almost 40% of the female English sole NMFS tested from Eagle Harbor and Duwamish Waterway failed to mature sexually. Sediments in both areas have high levels of aromatic hydrocarbons, which can result in disease and induce a variety of lesions leading eventually to development of cancerous tumors.
- \* Liver cancer (the most extreme lesion) has been found in 20% of English sole collected from two of the most contaminated areas of Puget Sound, and in 15% of winter flounder samples from similarly affected areas of Boston Harbor.
- \* Liver cancer and pre-cancerous liver lesions have been found in 33% and 93%, respectively, of the killifish collected from a contaminated site in the Elizabeth River, Virginia. Virtually all adult grey trout (which feed by sight) collected from heavily polluted areas of that river have contaminant-induced eye cataracts.<sup>55</sup>

More broadly, the Smithsonian Institution's Registry of Tumors has documented that fish with serious contaminant-related abnormalities are generally found in those areas of the U.S. affected most by coastal pollution from about 1,900 major industrial and municipal dischargers.<sup>56</sup>

## 2. We are losing or damaging our aquatic habitats

A combination of factors, including chemical pollution, loss of important physical habitat, and overharvesting, are to blame

for the declines in most species. There is no single source of data on loss or degradation of aquatic habitats since 1972. However, a significant amount of objective information exists on particular types of aquatic habitat. This information confirms the sad reality that while some chemical pollutant loads may be declining, the overall integrity of our aquatic ecosystems is declining dramatically.

#### Instream Fisheries Habitat

Over ten years ago, FWS and EPA conducted the National Fisheries Survey, billed as the first statistically designed survey of the status of the Nation's waters and fish communities. The survey requested detailed information on habitat conditions from professional aquatic biologists around the country, based on a large statistical cross-section of waters. Unfortunately, despite its conclusion that much follow-up work was warranted, the Survey was both the first and the last effort of its kind.

The conclusions of the Survey were striking: 81% of the Nation's waters had fish communities adversely affected by a variety of factors, including 53.3% of all perennial waters.<sup>57</sup> Most telling were the survey's rankings of waters according to the following categories:

- 0 - no ability to support any fish population
- 1 - support nonsport fish only
- 2 - minimally able to support sport fish or species of special concern
- 3-4 - intermediate ability to support sport fish
- 5 - able to support sport fish, species of special concern or both at maximum level

For all streams and perennial streams, rankings were as follows:

<u>Rank</u>	<u>All streams</u>	<u>Perennial Streams</u>
0 (no support)	23.1%	3.1%
1 (nonsport only)	10.0%	5.2%
2 (minimal support)	21.0%	17.2%
3-4 (intermediate)	42.1%	40.1%
5 (maximum support)	3.9%	3.9%

All told, even for perennial streams, more than one out of four provided only "minimal" support or less for healthy fish populations. Less than 4% of waters were rated as completely healthy. Moreover, relative to 5 years earlier the survey found the following trends: 91% kept the same rank, 4% improved, and 5% degraded; and respondents believed conditions would deteriorate severely over the next five years.<sup>58</sup>

#### Wetlands

Wetlands trends were summarized in a 1991 Report to Congress by the Fish and Wildlife Service on "Wetlands Status and Trends" from the mid-1970s to mid-1980s.<sup>59</sup> The results of this analysis are shocking in terms of overall wetlands losses throughout the Nation's history. At the time of European colonization the coterminous United States had an estimated 221 million acres of wetlands. More than half of this acreage has been lost through draining, dredging, filling, levies and flooding. Twenty two states have lost 50% or more of their original wetlands acreage; and ten have lost over 70%.<sup>60</sup>

When the Clean Water Act began to regulate wetlands in the mid-1970s, an estimated 105.9 million acres of wetlands remained. By the mid-1980s, this had dropped to 103.3 million acres, a

total loss of 2.6 million acres, or an average of 260,000 acres/year.<sup>61</sup> Given historical losses, a loss of over a quarter of a million acres a year remains completely unacceptable, and is fundamentally inconsistent with the objective of restoring and maintaining the integrity of the Nation's waters. Unlike many forms of pollution and other partial habitat changes, dredging and filling of wetlands results in complete or virtually complete loss of aquatic habitat and other wetlands functions. And in most cases, these losses are permanent.

At the same time, the study is at least promising from the perspective of recent trends. The rate of wetlands loss has slowed (by about half) since the wetlands protection provisions of the Act have been in place. If this trend continues, and wetlands protection efforts are expanded and strengthened, perhaps we can reverse the tide and begin to restore rather than degrade the Nation's wetlands resources.

However, these figures apply only to the complete loss of wetlands acreage. It does not address pollution or more subtle forms of damage to wetlands which can result in the significant loss of natural and other values. Few states have standards to address wetlands uses or criteria to determine whether those uses are protected. In the 1990 National Water Quality Inventory, only five states (California, Hawaii, Iowa, Kansas and Nevada) reported on use impairment for wetlands. The information in these reports, however, is disturbing. The 5 states combined estimated that only half of their wetlands fully supported

designated uses, with 6% threatened, 26% "partially" supporting, and over 17% not supporting wetlands uses.<sup>62</sup> While the paucity of data makes extrapolations to other states difficult, this information suggests strongly that we have lost far more than half of the Nation's wetlands in terms of the functions they perform, as opposed to raw reductions in acreage.

#### Floodplains and Riparian Habitat

Floodplains (which in many cases overlap with wetlands)<sup>63</sup> and riparian habitat provide essential hydrological and ecological support functions for the adjacent rivers and streams (or in the case of lakeside habitat -- lakes). Floodplains have very high biological productivity due to exchanges of water and materials between river and floodplain, with a highly diverse biota adapted to floodplain habitat and resources.<sup>64</sup>

Estimates of loss of floodplain and riparian habitat vary. But while the estimates differ in the details, they all lead to the conclusion that a large percentage of the original riparian habitat in the United States has been lost, and continues to be lost. A detailed 1992 assessment of floodplain management in the United States found that out of 75-100 million acres of indigenous, woody riparian habitat in the United States, less than half (about 35 million acres) remain in nearly natural condition. The rest have been inundated, channelized, dammed, riprapped, farmed, overgrazed, or altered by other land uses.<sup>65</sup> The Corps of Engineers estimates that there are 574,500 miles of

stream bank with erosion problems in the United States, 142,100 of which are characterized as "serious".<sup>66</sup>

Much of the damage was already done by the time the Act was passed. By 1973 the channels of at least 200,000 miles of waterways in the United States (approximately one out of five stream miles) had been modified.<sup>67</sup> This would equal over half of the total length of large warm water streams where channel alterations are most prevalent. Evidence shows, however, that these trends have continued since the Clean Water Act was passed. For example, the amount of SCS channel work constructed or under contract totaled nearly 11,000 miles by 1980, translating to an average loss of approximately 300 miles of natural stream habitat per year since 1972 from this source alone. By the end of the 1970s, multiple sources confirmed that at least half of America's original riparian habitat had been destroyed.<sup>68</sup> According to one 1979 estimate, only 23 million out of 67 million acres of the four predominant riparian vegetation types remained in the United States, a loss of 66 percent.<sup>69</sup> In 1981, FWS calculated that only 26 million out of almost 56 million acres of riparian ecosystems remained in the contiguous states and Hawaii.<sup>70</sup>

#### Coastal Habitat

While aquatic habitats are suffering throughout the country, the cumulative impacts of upstream degradation converge on coastal ecosystems, and combine with ever-increasing pressures for economic and population growth in coastal regions.

Addressing the 57th North American Wildlife and Natural Resources Conference in 1991, a chief NOAA scientist said:

The evidence of the decline in the environmental quality of our estuaries and coastal waters is accumulating steadily. The toll of nearly four centuries of human activity becomes more and more clear as our coastal productivity declines, as habitats disappear, and as our monitoring systems reveal other problems.... The continuing damage to coastal resources from pollution, development, and natural forces raises serious doubts about the ability of our estuaries, bays, and near coastal waters to survive these stresses. If we fail to act and if current trends continue unabated, what is now a serious, widespread collection of problems may coalesce into a national crisis by early in the next century.<sup>71</sup>

In addition to toxic chemicals and nutrients, NOAA cited habitat degradation as the principle cause of this decline. Sources of coastal habitat degradation include freshwater flow alteration and diversion, wetland conversion, erosion and habitat loss from land development, dam construction, navigation channel construction, port development, energy production, logging, agriculture, and other resource consumptive uses.

#### IV. THE ECONOMICS OF CLEAN WATER

It is impossible to capture in economic terms the full value of clean water and healthy aquatic ecosystems. Still, debates over the Clean Water Act continue to raise the issues of cost versus economic benefits, and need versus budgetary reality. It is essential, therefore, to address the economics of clean water as completely as possible given the limitations of economic valuation. From one angle, we can try to identify the economic value of our existing aquatic resources. From the other side, we

can try to get a sense of how much our economy has suffered from past destruction of these resources. Either way, past investments in clean water programs have reaped considerable benefits, and future investments are more than justified on economic as well as other grounds.

#### Commercial Fisheries

From 1972 to 1990, annual U.S. seafood consumption jumped from 12.5 to 15.5 pounds of fish per person.<sup>72</sup> The U.S. Department of Agriculture indicated that by the turn of the century, this consumption rate could increase to as much as 17.2 pounds per person. If this forecast is correct, supplies of edible seafood products will need to increase by 18 to 31 percent by the year 2000 to meet the demand.<sup>73</sup>

A major and growing U.S. industry supports this demand. In recent years the United States has ranked about 6th among major fishing nations, behind the [former] USSR, China, Japan, Peru, and Chile.<sup>74</sup> U.S. commercial fish harvest increased each year between 1976 and 1990, as did the economic value of each year's catch. Moreover, while the dockside value of U.S. landings in 1990 was \$3.6 billion, more economic value is generated through processing and wholesaling. That year the industry's total contribution to the U.S. GNP exceeded \$16.5 billion.<sup>75</sup>

Besides providing food, commercial fisheries also provide employment for hundreds of thousands of people per year. In 1988 alone, 363,703 people were employed through commercial fisheries (fishing, processing, wholesaling) -- a major increase from

230,387 jobs in these industries in 1972. As fish consumption rises, so will the employment rate. Protecting clean water is essential to protecting these jobs.<sup>76</sup>

#### Recreational Fishing and Hunting

Recreational fishing is the premier outdoor recreational activity in the United States. Over the past thirty years, the number of participants in fishing activities increased steadily. In 1985, one in four Americans 16 years and older (46.4 million total) fished for pleasure. They took over 870 million fishing trips and spent a total of 977 million days on the water.<sup>77</sup> According to EPA, another 12 million younger Americans (under 16) fished for pleasure in 1985 as well.<sup>78</sup> Recreational fishing supports a major U.S. industry. Total expenditures for recreational fishing in 1985 exceeded \$28 billion dollars.<sup>79</sup>

Shellfishing is also a popular sport. In 1985, an estimated four million people (two percent of the U.S. population) aged 16 or older participated in recreational shellfishing. The number of days spent shellfishing was 28 million. Fifty percent of shellfishers lived in the South and accounted for 59 percent of all shellfishing days. Shellfishers estimated that they spent \$2.3 billion to participate in the sport: \$1.1 billion on trip-related expenses such as food, lodging, and transportation; \$1.2 billion on equipment; and \$63 million on other expenses.<sup>80</sup>

Another common water-based sport is waterfowl hunting. According to the National Survey of Fishing, Hunting, and Wildlife Associated Recreation conducted by the Department of

Interior, in 1985 3.2 million hunters spent 25.9 million days hunting waterfowl. Expenditures for waterfowl hunting totaled over \$783 million.<sup>81</sup>

All forms of water-based hunting and fishing in the United States are on the rise. Comparing similar national surveys from 1955-1985, the total number of fishers and waterfowl hunters increased dramatically over the thirty year period, resulting in a major rise in expenditures made to participate in these sports. The following table illustrates this increase by comparing data from 1970 and 1985.

COMPARISON OF MAJOR FINDINGS - 1970 and 1985<sup>82</sup>  
(Fishing and Waterfowl Hunting)

	<u>1970</u>	<u>1985</u>
Total Fishers	33.2 million	45.3 million
Freshwater	29.4 million	39.1 million
Saltwater	9.5 million	12.9 million
Waterfowl Hunters	2.9 million	3.2 million
Fishing expenditures	\$5.0 billion	\$28.6 billion
Hunting expenditures	\$244.5 million	\$783.3 million
Days spent fishing	706.2 million	1.1 billion
Days spent hunting	25.1 million	25.9 million

Other evidence confirms these trends, indicating that the economic value of clean water is on the rise:<sup>83</sup>

- \* Fishing and boating on federal lands rose dramatically from 1982 to 1989.
- \* Total annual fishing licenses increased from 31 to almost 37 million from 1970 to 1988, as did the cost of those licenses.
- \* Sales of fishing tackle rose from \$540 million in 1980 to almost \$740 million in 1989.

These trends are expected to continue. By the turn of the century about 84 million Americans are expected to participate in recreational fishing. And according to some estimates, the available living aquatic resources in the United States are limited and not expected to satisfy demands for quality recreational fishing by the year 2000.<sup>84</sup>

#### Other Water-Based Recreation

Measured by the number of trips away from home, our most popular outdoor activities in 1987 included swimming outdoors (461 million trips per year), warm water fishing (239 million trips per year), and motor boating (220 million trips per year).<sup>85</sup> A broad array of activities are enjoyed near the waterfront. In 1985, 14.8 million people visited lakes or streams, 8.4 million people went to marshes or wetlands, and 5.7 million went to the ocean.<sup>86</sup> (According to EPA, the Interior Department reported an even higher number of outdoor (non-pool) swimmers in 1982.)<sup>87</sup> While at these sites, the majority of people enjoyed feeding, photographing, and observing birds and mammals. Others enjoyed observing and feeding fish, amphibians and reptiles, shellfish and marine mammals. Other recreational activities included water-skiing, walking along the shore, kayaking, canoeing, rafting, surfing, sunbathing, and picnicking.

Moreover, as with recreational hunting and fishing, other forms of water-based recreation are on the rise as well:

- \* Visitors to National Seashores and Lakeshores jumped from 18 million in 1981 to over 23 million in 1988.

- \* The number and value of recreational boats in the United States almost doubled from 1970 to 1989, with total expenditures on recreational boating quadrupling.<sup>88</sup>

Also like recreational hunting and fishing, other water-based recreation generates substantial and increasing economic benefits. Direct and indirect expenditures on boating (boats, motors, equipment, fuel, insurance, etc.) doubled from \$11 billion in 1970 (1990 dollars) to almost \$20 billion in 1988 (although expenditures dropped to just under \$14 billion -- still a 25% increase over 1970 -- in recessionary 1989-90). This activity supports over 6,200 manufacturers of boats, trailers, motors and accessories, as well as over 8,300 marinas, boatyards and yacht clubs. The recreational marine industry as a whole provides jobs for about 600,000 people.<sup>89</sup>

While similar nationwide economic data are not available for swimming expenditures, a case study in Florida highlights the tremendous importance of swimming-related tourism. According to this study, Florida beach users generated a total of \$2.3 billion in economic benefits in 1984. This included direct expenditures of \$1.8 billion (almost 1.5 percent of total gross sales in the State), over \$400 million in payroll for about 84,000 jobs, and tax revenues of almost \$95 million.<sup>90</sup>

#### Intangible Values

Measuring actual expenditures is only one way to establish the value of clean water to people. Aesthetics, nature and the

opportunity to view wildlife are other ways to value the importance of keeping our waters pristine. From swimming to boating to sunbathing, spending time in or near the water is a favorite way for people to spend leisure time.

Many of these activities, of course, contribute to the economy directly through equipment purchase, travel expenditures, and activity fees. However, it is difficult to place a value on the pleasure of spending a sweltering summer day in or near a cool, clean body of water, or on the satisfaction of seeing wildlife in their natural habitat. It is even harder to place a price tag on the assurance that these resources will be left for our children as well.

Some economists, however, are beginning to assess economic values to intangible environmental benefits through techniques such as contingent valuation surveys. These surveys generally describe a hypothetical market in which a public good may be purchased and ask participants how much they would be willing to pay for an increase in the level of this public good.

Care must be taken interpreting contingent valuation studies. Uncertainties about this method lead to questions about how complete or accurate such valuation can be. For example, if survey respondents say they would pay less for ecological or aesthetic resources during a recession than during a period of economic growth, does this mean the resource is really worth less? Moreover, a respondent's willingness to pay for a resource is likely colored by his or her knowledge and understanding about

the benefits provided by that resource. A respondent who did not know that wetlands support many endangered species, for example, probably would be willing to pay less to protect an acre of wetland. Economists continue to debate whether the answers of survey respondents should be based on their current knowledge or whether they should be given more information, and on other aspects of contingent valuation methodology.<sup>91</sup>

Despite these limitations, contingent valuation studies at least can fill in some of the gaps left by traditional economic methods in valuing our water resources. A 1991 contingent valuation study conducted by Resources For the Future asked a national sample of Americans to value a set of water quality improvements. In this study, respondents were asked to give a monetary value to minimum levels of boatable, fishable, and swimmable water. Those who gave useable answers were willing to pay an average of \$106 per year for boatable water quality, plus \$80 for fishable minimum water quality, and an additional \$89 more to reach a national minimum of swimmable water quality. Altogether, people, on the average were willing to pay \$275 per year to ensure clean water.<sup>92</sup> Based on these answers, the economic benefit of achieving the national swimmable water quality goal was estimated at \$29.2 billion per year in 1990. However, a range of \$24 to \$43 billion dollars per year was considered reasonable. When the results of this study were aggregated with other similar surveys and adjusted to correct for the number of current households and the consumer price index,

the estimated value of clean water became \$46.7 billion.<sup>93</sup> Clearly, the public places a large economic "value" on even the intangible benefits of our aquatic resources.

To some extent, public willingness to pay for the intangible values of water resources is confirmed by the increased values of waterside property. EPA cites the following examples:

- A 1983 study estimated that properties on polluted St. Alban's Bay on Lake Champlain, Vermont were selling for \$4,500 less than similar properties elsewhere on the Lake, with a total property value loss of \$2 million.
- Water quality improvements in the Lower Willamette River near Portland, Oregon led to residential property increases of 16 to 25 percent.
- Reduction of water pollution in San Diego Bay in the 1960's resulted in an approximately 8 percent rise in residential property values.<sup>94</sup>

#### Wetlands

Because their importance has been hotly debated in recent years, it is particularly important to underscore the economic, as well as environmental, values of wetlands. While some may view wetlands as just swamps or even eyesores, they are actually rich areas that support an abundance of wildlife and provide services that may be worth billions of dollars in economic benefits. For example, an estimated 50 million people spend nearly \$10 billion annually to observe and photograph wetland-dependent birds.

Wetlands also sustain much of the country's seafood. In the Southeast, 96 percent of the commercial catch and over 50 percent of the recreational catch is dependent on estuarine and other coastal wetlands. Estimates of the value of coastal wetlands to commercial and recreational fisheries range from about \$2200/acre on the Pacific coast to almost \$10,000/acre along parts of the Florida coastline.<sup>95</sup> Wetlands also provide habitats for valued mammals such as muskrats, beavers, and minks. Muskrat pelts alone are worth over \$70 million annually.<sup>96</sup>

A 1981 case study by researchers at Tufts University illustrates the economic importance of wetlands.<sup>97</sup> The researchers evaluated 8535 acres of wetlands in the Charles River Basin, Suffolk, Norfolk, and Middlesex Counties, Massachusetts. The economic benefits measured were flood control, increases in land value, pollution reduction, water supply, and recreation and aesthetics. Other values, including preservation and research, vicarious consumption and option demand, and undiscovered benefits, were "described, not monetarized."

Although the study produced conservative estimates of the monetary value of wetlands, its findings are quite revealing. The following is a break-down of the estimated economic benefits of one acre of Charles River Basin wetland in 1978 dollars: flood prevention (\$33,370), local amenity (\$150 - \$480), nutrient reduction (\$16,960), water supply (\$100,730), recreation (\$2,145 - \$38,469). Therefore, the total long-term worth of just one

acre was estimated to lie between at \$153,000 - \$190,009. Not bad for "just a swamp."

#### CONCLUSION

In Earth in the Balance, then-Senator Al Gore quoted Oscar Wilde: "A cynic is one who knows the cost of everything and the value of nothing." It is easy to dwell on the costs of clean water, while forgetting the tremendous value of aquatic resources to our lives and our economy. We share a large stake in the protection of our rivers, lakes and coastal waters, but we have not done an adequate job of preserving them. These failures bring tremendous economic as well as environmental harm. So whether we view our Clean Water Act record as ecologists or as economists, we must conclude that we have not succeeded in the mission we embarked on twenty years ago.

NRDC looks forward to working with the Committee over the several months to address these serious problems.

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**Healing Damaged and Threatened Watersheds:**

**Polluted Runoff Controls,  
Citizen Water Quality Monitoring  
and Urban Job Creation**

**Testimony of Diane M. Cameron  
Senior Research Associate  
Natural Resources Defense Council**

**Subcommittee on Water Resources  
Committee on Public Works and Transportation  
United States House of Representatives**

**Thursday, April 22, 1993**

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## I. Summary

Poison runoff impairs more waterbodies, surface and ground, urban and rural, than any other pollution source in the country. Poison runoff is the contaminated stormwater and snowmelt that runs off of, or leaches through, land used and abused for human purposes without regard to ecological needs. Although the dominance of poison runoff ("nonpoint source water pollution") as a water quality problem is widely acknowledged, (and was known even before 1972), in general we have failed to create and implement effective programs that protect and restore our nation's waters that are subject to this threat.

The framers of the 1972 Clean Water Act explicitly recognized the need for State water quality programs to address land-based sources of water pollution in their water quality assessments and in their watershed management plans developed under section 208 of the Act ("208 Plans"). The dominance of the "point source challenge," however, eclipsed public awareness of, and government attention to, more diffuse pollution sources.

By the mid 1980s, impatient with the lack of EPA and State progress in controlling poison runoff, Congress created the "State Nonpoint Source Management Program" (§ 319). Unfortunately, the State 319 programs have been plagued by slow and inadequate funding, lack of adequate implementing mechanisms, and insufficient direction and oversight from EPA. The 1987 CWA Amendments also included requirements for the municipal and industrial stormwater permits; these permitting programs are now helping to revive public interest in restoring

blighted urban watersheds into oases of life. In 1990, Congress passed a new program, aimed at reducing poison runoff in coastal watersheds, with a more ambitious pollution reduction mandate and more regulatory clout than the 319 program. The "Coastal Zone Nonpoint Source Pollution Control Program" may be a model for revisions to State runoff and watershed management programs that will help to reduce and prevent poison runoff.

To underscore the severity of the poison runoff problem, and to explain it to the uninitiated, we begin this section with a poison runoff primer. Next, we evaluate the implementation and efficacy of Clean Water Act poison runoff programs that existed before 1987, as well as the two major initiatives passed in 1987 (§ 319) and in 1990 (the Coastal Zone Management Act). Finally, we discuss ways to address urban water quality problems. These include the need for urban stormwater controls in national minimum stormwater permit programs. We also describe the challenges that face urban leaders seeking to restore inner city waters to places of recreation and refreshment, and to provide meaningful jobs in the process of healing urban waters.

## II. Introduction to the Problem of Polluted Runoff and Watershed Restoration

### A. A Primer on Poison Runoff

#### Poison Runoff Problems Were Brought Here by the Pilgrims

Poison runoff is not a new phenomenon; in fact, it has been with us since the first settlers clear-cut the New England forests, and since the first farmers began plowing the fertile lands of the Eastern Coastal Plain. Reflecting a lack of

understanding of history, the official rhetoric has often apologized for the severe lack of money, staff resources, and regulatory clout devoted to poison runoff reduction by claiming that this is a new or obscure pollution source. For example, EPA's Final Report to Congress on Section 319 of the Clean Water Act states,

"Nonpoint source impacts have not been fully assessed. The Nation has focused largely on impacts caused by traditional point sources (POTWs and industrial dischargers) in the past because point source discharges were causing major, visible problems in our surface waters. Thus, very little attention has been given to assessing the impacts of NPSS. Since water quality impacts still exist in many areas, it is now very clear that NPSS have had and continue to have widespread impacts upon surface waters."<sup>1</sup>

Contrary to this assertion, land-based, diffuse pollution sources and the severity of damage they caused were well-known to the framers of the original Clean Water Act. The 1972 Senate Report said:

"One of the most significant aspects of this year's hearings on the pending legislation was the information presented on the degree to which nonpoint sources contribute to water pollution. Agricultural runoff, animal wastes, soil erosion, fertilizers, pesticides and other farm chemicals that are a part of runoff, construction runoff and siltation from mines and acid mine drainage are major contributors to the Nation's water pollution problem. Little has been done to control this major source of pollution....It has become clearly established that the waters of the Nation cannot be restored and their quality maintained unless the very complex and difficult problem of nonpoint sources is addressed....The Committee recognizes, at the outset, that many nonpoint sources of pollution are beyond present technology of control. However, there are many programs that can be applied to each of the categories of nonpoint sources and the Committee expects that these controls will be applied as soon as possible."<sup>2</sup>

Unfortunately, it would be over two decades before any land use category-specific water quality controls were required as

part of a federal program -- the Coastal Zone Nonpoint Source Pollution Control Program -- which we will discuss below. In the intervening years, poison runoff continued unabated.

National Statistics Show That Poison Runoff Damages Are Widespread

Two water quality assessment programs required by the CWA include poison runoff: the biennial 305(b) reports, and the one-time 319(a) reports. The 305(b) reports are supposed to cover all waterbodies and all relevant pollution sources in each State; the 319(a) reports are supposed to be Statewide assessments of runoff problems, conducted wherever possible on a watershed-by-watershed basis. There is some overlap between these two reports.

As we discussed earlier, the 305(b) water quality assessments are difficult to compile for a time-series analysis of trends, since the scope and methodologies for reporting have changed so frequently. And these reports likely underestimate the magnitude of the poison runoff problem even more than for other sources of pollution because, as discussed below, poison runoff is even more dominated by physical and biological (as opposed to chemical) impairment. The most complete, and thus the most revealing, 305(b) reports on runoff problems were from the most recent (1988-1989) reporting cycle compiled by EPA.

EPA in 1991 published a compendium of the States' 319(a) assessments, entitled Managing Nonpoint Source Pollution, as required by § 319(m). This report also contains a comprehensive set of statistics on the role of land-based sources in damaging

aquatic resources nationwide. Below we summarize the damage assessment from this report as well as from the 1988-1989 305(b) compilation (The National Water Quality Inventory).

Rivers: Over 100,000 assessed river miles are impaired or threatened by agricultural runoff nationwide. Over 15,000 more assessed river miles are impaired by logging; and almost 10,000 assessed river miles are impaired by construction runoff. About 40,000 river miles were listed in the 319(a) reports as threatened by runoff pollution sources.

Lakes: Almost 2 million acres of U.S. lakes are impaired by agricultural runoff sources. Storm sewers impair almost another million acres.

Great Lakes: All affected Great Lakes areas of Indiana (Lake Michigan) and New York (Lakes Erie and Ontario) do not support designated uses (wildlife-Indiana), (fisheries-New York), attributed in large part to poison runoff sources. (No other Great Lake State provided quantitative assessments of runoff impacts to the Great Lakes.)

Wetlands: About 52,000 acres of wetlands in California, Iowa, and Delaware are not supporting one or more designated uses, or are threatened due to poison runoff sources. (No other States gave quantitative information on wetlands damage from runoff sources.)

Coastal Waters: 1.2 million acres of coastal waters are not fully supporting one or more designated uses due to poison runoff.

Estuaries: About 5,000 square miles of estuarine waters are impaired or threatened by runoff sources.

Groundwater: Public drinking water supplies are threatened by runoff sources in the four States that specified impacts to designated uses.<sup>3</sup> Nitrates in groundwater exceed current health standards in virtually all States and occur in 5 to 20 percent of sampled wells in the Western Corn Belt and Mid-Atlantic States, largely due to fertilizer applications on farms.<sup>4</sup>

The runoff management and waterbody assessment programs are not the only source of national statistics on runoff damage. In June, 1989, under § 304(1) discussed above, EPA released a list

of over 17,000 "toxic hotspots" -- seriously degraded waterbodies. Only 602, or less than 4 percent, were impaired "wholly or substantially" by factories or sewage treatment plants. The rest were polluted, wholly or substantially, by poison runoff from farms and other sources.<sup>5</sup>

B. The Nature of Poison Runoff Varies by Land Use Category, But Water Quality Damage Tends to Be Systemic, Part of "Business As Usual"

Virtually every human activity on the land has the potential to impair water quality and aquatic habitat. It is beyond the scope of this report to describe every land use category in detail; we will, however, highlight the most significant categories that do the most damage nationwide: Agriculture (including cropping, confined animal operations and grazing); mining; urban development and logging.

Agriculture Dominates as the Number One Source of Aquatic Impairment, But Farming Practices that Save Money, Protect Water Quality Are Available

Agriculture is the leading source of water pollution in the United States, according to EPA.<sup>6</sup> Agriculture was cited by EPA as the leading source of pollutants causing or contributing to "toxic hotspots" in its June 1989 release of the list of 17,000 hotspots nationwide.<sup>7</sup> The latest National Water Quality Inventory (1988-1989) reported that agriculture was far-and-away the largest source of river impairment, serving as a contributing source in over 60% of impaired river miles. For perspective, the next biggest reported source -- municipal sewage plant discharges -- contributed to 16.4% of impaired river miles.)<sup>8</sup>

Agriculture is also a leading cause of species endangerment and extinction. About 37% of the 436 species listed in the Endangered Species Information System data base are imperiled at least in part by irrigation and the use of pesticides. An unpublished EPA staff report from November 1989, based on data from the Department of the Interior, identified 125 endangered or threatened species that are aquatic or water-dependent and are impacted by agricultural practices such as pesticide usage.<sup>9</sup>

Agricultural activities were also fingered as a major cause of fish kills. Three out of the top six pollutant categories cited as causing fish kills, low dissolved oxygen, pesticides, and fertilizers, are wholly or substantially from agricultural uses (the other three are petroleum, pH/acidity and organic chemicals). However, agriculture accounted for only 5% of the total number of fish killed from 1977 and 1985, because the size of each fish kill was relatively small. In EPA's 1986-87 summary of State reports on fish kills, animal feedlot/waste operations were blamed for over 1 million fish killed (most likely due to oxygen starvation from manure pollution).<sup>10</sup> In a separate 1984 survey of fish kill data, pesticides were cited as the leading documented cause of fish kills in the U.S. over the previous two decades.<sup>11</sup>

Because agriculture is by far the biggest source of waterbody impairment nationwide, and because it is such a diverse industry, it is necessary to sub-categorize the industry in order

to explain regional differences in the types of impairments observed.

#### Croplands

Soil erosion, pesticide pollution, nitrates leaching into groundwater, nitrogen and phosphorus runoff into estuaries, wetlands conversion, streambank wastage, and manure runoff are all major problems associated with crop production. Irrigated crop production can be associated with all of these water quality problems, plus the discharge of toxic mineral salts into estuaries and marshlands. Below we give some national and regional data on water pollution from crop production.

Soil erosion data has only been collected on the national level since 1977. The National Resources Inventory, taken roughly every five years by the Soil Conservation Service, includes reports for 1977, 1982, and 1987.

The 1982 and 1987 reports are more reliable than the 1977 reports. Total U.S. soil erosion estimates from sheet and rill (water-borne) erosion from cropland show a decline from roughly 1.8 billion tons of sheet and rill erosion in 1982 to about 1.6 billion tons eroded in 1987 -- a decline of about 11 percent.

Among the trends in crop production accounting for the decline are the onset of the 1985 Farm Bill conservation program, including the conservation reserve and conservation compliance programs. While a direct connection between soil erosion and water quality cannot be made, in general, the more soil is conserved, the more our waters are protected from sediment

pollution. The job of keeping soil on the land is far from over, however. Despite this apparent reduction in erosion losses, sediment and siltation from agriculture and other land uses remains the top water pollution problem in the country.

Pesticides pollute both surface and groundwater. Fish kills from pesticides were discussed above. Overall pesticide use statistics are startling, and give an indication of the magnitude of the potential pesticide problem for water quality. EPA has estimated that approximately 600 active ingredients are marketed in 45,000 to 50,000 formulations. About 430 million pounds of pesticides were applied agriculturally in 1987, with a market value of about \$4.0 billion.<sup>12</sup> According to EPA's compilation of the States' 1988/89 305(b) reports, pesticides impaired 11.2% of all assessed river miles and 14.5% of Great Lake shore miles. (Pesticide impairment of lakes was not assessed, or not reported in this compilation.)<sup>13</sup>

A recent USGS study of ten current-use herbicides in surface waters of the Midwest found that high concentrations of herbicides were flushed from cropland and were transported through surface waters as pulses in response to late spring and early summer rainstorms.<sup>14</sup> Several of the herbicides exceeded the EPA water quality criterion for drinking water-human health protection in a significant percentage of the samples. For example, 52% of the sites exceeded the primary drinking water standard for atrazine (3 ug/L); 32% exceeded the WQC for alachlor (2 ug/L); and seven percent for simazine (1 ug/L). The median

concentrations of the four major herbicides, atrazine, alachlor, cyanazine, and metolachlor, jumped by a factor of ten in the late spring-early summer samples, and then dropped back to near-replanting levels by harvest time. The study sampled 149 sites in 122 river basins of Ohio, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Kentucky, South Dakota, Kansas, Nebraska and Missouri.<sup>15</sup> The fact that over half of these midwestern surface water sites exceeded the atrazine drinking water standard, and a third exceeded the alachlor drinking water standard, is a concern for all communities that rely upon these waters as drinking water supplies, and particularly for those small rural towns that do not use advanced drinking water treatment such as carbon filtration.

The nutrients phosphorus and nitrogen are important water pollutants from agricultural operations including manure spreading and artificial fertilizer applications. Phosphorus in high levels is acutely toxic to fish; in much lower levels it overenriches waterbodies, causing them to fill up with algae ("eutrophication"). Nitrogen, especially in the form of nitrate, is a human health and livestock health concern (EPA's drinking water standard for nitrate is 10 mg/L) because it causes "blue baby syndrome" (methemoglobinemia). Like phosphorus, nitrogen also contributes to eutrophication of lakes and estuaries in much smaller concentrations than those of human health concern. In the form of ammonia, nitrogen is also acutely toxic to fish.

The use of nitrogen fertilizers in the U.S. increased by more than a factor of four in the two decades between 1960 and 1981, to a 1981 total of 11.9 million tons per year. Per-acre use of fertilizers doubled between 1964 and 1984. However, the skyrocketing increase in the use of nitrogenous fertilizers may have reached its apex in the 1980s, and has apparently begun to decline slightly; the total tons of n-fertilizer used declined 12 percent, to 10.5 million tons of annual application, between 1981 and 1988.<sup>16</sup>

Long-term trend data for nitrate pollution is scarce. One ten-year study in Nebraska from the early 1960s to the early 1970s, showed a 25% increase, on a statewide average, of groundwater nitrate-nitrogen concentrations. During that same time frame, nitrogen fertilizer use in Nebraska increased by a factor of four. A longer time-series study on nitrogen pollution from almost 4600 samples from wells all over Iowa showed that nitrate levels in groundwater from shallow wells less than 100 feet deep increased slowly but steadily from 1952 to 1979, where total fertilizer use and per-acre applications were increasing rapidly.<sup>17</sup>

Waters in karst (limestone-solution feature) topographies are especially vulnerable to nitrate contamination. In Iowa's Big Springs Basin, part of the Karst region that straddles portions of Iowa, Wisconsin, and Kansas, groundwater nitrate concentrations tripled (from five mg/L to 15 mg/L) from 1958 to 1982. These data suggest a yearly rate of increase of 0.4 mg/L

of the average nitrate-nitrogen concentration. A farm survey in the basin in the mid-1980s showed that area farmers were not preparing nitrogen budgets to determine appropriate fertilizer application rates. Where such budgets were prepared, they were incomplete. Alfalfa and manure contributions to soil-nitrogen were being neglected, and thus in 1984 artificial fertilizers were being applied in excess of need at a rate of about 90 kilograms per hectare.<sup>18</sup>

Of course, the foregoing examples of nitrate contamination trend data are perhaps from regions with more vulnerable climate and geology, and the problems of nitrate contamination inevitably vary in severity from region to region. Nonetheless, "snapshot" statistics from single-year national studies show us that nitrate contamination of groundwater is indeed a problem that is national in scope. A 1986 USGS sampling of 316 principal aquifers in 46 States turned up 288 (91%) with median nitrate-n levels below three mg/L; 27 aquifers (8.5%) with median nitrate-n levels between 3 and 10 mg/L; and 1 (0.5%) aquifer with median nitrate-n levels above 10 mg/L. The same USGS study found that 41 (13% of the aquifers) in twenty states had nitrate "hotspots" where greater than ten percent of the samples exceeded the EPA-human health 10 mg/L standard.<sup>19</sup>

Conservation practices on the farm, designed to protect soil and water quality, are often easier on the bank book as well. Thus, conservation tillage practices, which are critical to reducing damaging soil loadings into rivers and lakes, also can

save farmers both work time, and fuel costs.<sup>20</sup> Soil nutrient testing can cut farmers' fertilizer costs significantly.<sup>21</sup> And a recent study by a group at the University of Iowa found that agriculture and water quality goals may actually be far more compatible than many now perceive. The Iowa researchers found that, for several policy options for reducing agriculture's impact on water quality including regulation and research and education,

"... the effects on water quality and profitability suggest that water quality can be significantly improved without losses to farm profitability...there is not necessarily a direct tradeoff between water quality and profitability. Improvements to both can be achieved simultaneously and, in some cases, without high implementation costs borne by taxpayers or farmers."<sup>22</sup>

Manure management stands out as perhaps the most costly water-quality practice for most agricultural regions, and more work needs to be done to research cost-effective manure management techniques. As one farm researcher has observed, our agronomic universities need to

"stop funding research in animal-based agriculture production and marketing unless manures are an integral part of the research question. The corollary is to fund more research that both considers manure as an integral part of the production system and innovative ways of better managing this manure."<sup>23</sup>

Thus, integrating manure as a resource into whole-farm management plans will enable us to find cost-effective means of protecting waters from manure pollution.

#### Irrigation Pollution

Irrigation agriculture, which accounts for 90% of the water consumed in the West, results in poisoned return flows which

cause serious damage to waters and wetlands, endangering aquatic wildlife with toxics including selenium, boron, molybdenum, and chromium. Selenium has been identified as the cause of an observed high (64%) rate of deformed and dead bird embryos at Kesterson National Wildlife Refuge in California.

Although they begin with the diffuse flow of irrigation water off of farm fields, irrigation flows end as point source discharges, conveyed through pipes or ditches. Irrigation return flows have been given an express exemption from NPDES permitting in the Clean Water Act, without any database showing that the flows are benign. In fact, the U.S. Fish and Wildlife Service's preliminary data indicate that almost half (48%) of the Service's refuges that have toxic contaminant problems receive agricultural drainage.<sup>24</sup>

#### Grazing

Accurate national statistics on the total water quality damage wrought by grazing on both public and private rangelands are not currently available. However, the surveys that have been conducted on public rangelands do show massive damage to riparian areas from overgrazing. Statewide surveys by the Bureau of Land Management (BLM) in Colorado and Idaho, and more limited BLM surveys in Nevada and Utah, showed that over 80 percent of assessed streams or riparian areas were in poor or fair condition. Surveys by the U.S. Forest Service produced similarly troublesome results; in Arizona, 80 to 90 percent of the stream

riparian areas in the Tonto National Forest were in unsatisfactory condition.<sup>25</sup>

Rangeland expert Lynn Jacobs gives additional data on grazing damages to streams in the West, citing wildlife ecologist Charles Kay: "A recent study in Wyoming found that of 262 miles of streams, only 2% function now as they did in 1850. Eighty-three percent of the streams were lost or destroyed by overgrazing and accelerated erosion. The remaining 15% were in fair to good condition."<sup>26</sup> According to another range technician, riparian damage from cattle is so widespread in the West that most people, including most range managers, have never seen a healthy stream channel.<sup>27</sup>

And this riparian damage is done to vast areas of the West, for the sake of a tiny proportion of the nation's livestock: Although 90% of our western BLM lands are used for ranching, they produce only about 1.1% of U.S. cattle and sheep.<sup>28</sup> A GAO report on the health of riparian areas on U.S. public rangelands points out that the preferred management practice, cattle exclusion from streamside zones combined with revegetation, can reduce many of these impacts. Unfortunately, this practice is not required in many areas, and BLM staff are thwarted by their own top management in carrying out riparian restoration projects.<sup>29</sup>

#### Livestock Confinement (Feedlots)

EPA's Office of Policy, Planning and Evaluation estimates that, based on the U.S. Census of Agriculture, at least 1.1

million farmers have livestock. Of those, only 5,000 to 10,000 operations nationwide may be above the current 1000-unit cutoff for NPDES permit issuance.<sup>30</sup> For the rest, no particular federal manure management requirements apply under the Clean Water Act. For an example of the severity of the manure pollution problem, a Chesapeake Executive Council (the governing body for the Chesapeake Bay cleanup) report that found that "Control of 85 percent of Pennsylvania's animal waste alone would accomplish a 40 percent nutrient reduction for the state."<sup>31</sup> The Chesapeake Bay Foundation concluded that Pennsylvania should toughen its manure management program, including the "targeting of enforcement efforts at those operations responsible for disproportionately high nutrient loads as well as committing more resources to the program in general."<sup>32</sup>

#### Mining/Resource Extraction

Of the 171,008 impaired river miles assessed by the States for the 1988-1990 305(b) reports, 14 percent, or almost 25,000 miles were polluted by mining runoff (designated "Resource Extraction" by EPA.)<sup>33</sup> As reported by GAO, a 1976 study by an EPA contractor found that "80 percent of the nonpoint source pollution from inactive and abandoned ore and mineral mining areas was occurring in five states -- California, Colorado, Idaho, Missouri, and Montana.... The principal pollutants from these mines and mine waste piles were acid mine drainage, heavy metals, and sedimentation." As with all poison runoff sources, assessed sites are only a small portion of the total; in

Colorado, for example, the state had studied the environmental impact from only about one-sixth (8,000 out of an estimated 50,000) of the State's noncoal abandoned or inactive mines.<sup>34</sup>

#### Urban Development

Over 9800 impaired river miles, or 5.7% of total impaired miles, were polluted by construction runoff in the 1988-90 reporting cycle, and over 18,000 impaired river miles, or 10.6% of total impaired miles, were polluted by storm sewers from urban sites in the same cycle. (Urban watershed degradation and restoration are discussed at length below.)<sup>35</sup>

#### Logging

A total of 9% of impaired river miles, or 15,459 miles, were reported by the States as polluted by silvicultural activities in the 1988-1990 reporting cycle. These figures are probably gross underestimates, however, since some key logging States such as Maine do not monitor for logging-related parameters such as siltation levels.<sup>36</sup> As EPA points out in its final 319 report, "The absence of information from 12 states significantly distorts the figures; Alaska and Oregon, in particular, have considerable forestry activity and their inclusion would have affected the total."<sup>37</sup>

Fisheries biologists in the Northwest have discovered that logging tends to destroy fish habitat more profoundly than previously believed. Siltation from logging operations has long been known to clog the gravel beds that are the spawning grounds for threatened salmon species. Only since the early 1980s,

however, have biologists discovered that salmon survival requires more than silt-free gravel beds for spawning. It also requires extensive drainageway protection, since the young-of-the-year are reared in the tiny, capillary-level first-order tributaries, abandoned meander ponds and seep-fed creeks. According to naturalist Robert Steelquist:

"There they grow rapidly on aquatic insects and other organisms. This burst of growth gives these cohos a distinct advantage for survival at sea when they eventually leave the freshwater system.... These pond and tributary habitats, however, had never been recognized for their contribution to coho productivity. Though measures were in place to protect main-stem habitats from destruction, the beaver ponds and small channels were particularly vulnerable to logging, road building, and culverts, often filling with slash and debris."<sup>38</sup>

The road cuts, skid trails, and clear cuts that timber companies bring to forest lands do extensive damage to streams, rivers, and lakes around the country. In Maine, for example, a study done in the late 1970s by the Maine Forest Service found the following: 52% of harvesting sites had erosion or sedimentation problems; a substantial number of sites near State-designated protection zones violated logging road runoff and stream crossing requirements; and siltation in waterbodies from logging operations located from 75 to 250 feet from the waterbody. (Despite this evidence of widespread harm to water quality, water-sensitive practices for logging sites are still voluntary for the vast majority of the Maine Woods.)

III. What does the CWA say about these problems, and how good a job have EPA/States done in carrying out the will of Congress?

A. Runoff Mandates Dating Back to 1972 Were Abandoned or Implemented Poorly.

The Clean Water Act has addressed runoff pollution explicitly since the Act's inception in 1972. As NRDC points out in the book Poison Runoff, runoff control mandates in the pre-1987 Act could have been used more effectively. In fact, since 1972 the CWA has required that EPA and the states devise comprehensive programs to control water pollution from both point and nonpoint sources. At least five pre-1987 sections of the Act -- 102(a); 201(c); 208; 303; and 305(b) relate to, or explicitly describe, poison runoff assessment, control and reduction.<sup>39</sup> Below we describe briefly these requirements of the original Clean Water Act, and the degree to which they were implemented around the country.

Sections 102(a), 201 and 208 provided broad authority to EPA to set up holistic pollution prevention programs to protect water quality (long before "pollution prevention" became a popular term). Section 201(c), addressing areawide waste treatment management, was designed to ensure that State and local managers of the construction grants program would not have "point source tunnel vision." Congress wanted comprehensive water pollution benefits, through the control or treatment of all pollution sources, not just point sources of raw sewage and industrial waste.

Section 208 can be seen as further explication of the "comprehensive program goal" set forth in section 201. Section 208 is perhaps the best-known of the pre-1987 poison runoff requirements of the Act, partly because so many citizens participated in the creation of 208 plans. Section 208(b)(2)(F) requires areawide waste treatment management plans to include:

"a process to (i) identify, if appropriate, agriculturally and silviculturally related nonpoint sources of pollution, including return flows from irrigated agriculture, and their cumulative effects, runoff from manure disposal areas, and from land used for livestock and crop production, and (ii) set forth procedures and methods (including land use requirements) to control to the extent feasible such sources."

A series of Congressional hearings in 1979 highlighted the following problems as having hindered the success of the 208 program:

- \* too little time in which to create the plans;
- \* discontinuity and lack of federal funding;
- \* inadequate water quality data; and
- \* poor management by EPA.<sup>40</sup>

These same hearings emphasized several obstacles preventing managers from implementing practices to stem the flow of runoff:

- \* inadequate data on the effectiveness of control measures;
- \* institutional conflicts;
- \* need for public education on the benefits of nonpoint source control;
- \* [inadequate] funding, and
- \* debates over regulatory versus voluntary approaches to induce cooperation.<sup>41</sup>

A total of 176 Section 208 plans were created, plus another 49 State-level areawide plans. These 225 comprehensive water quality plans represented a definite step forward in the national knowledge base on diffuse, land-based pollution sources, and on watershed management in general. Another strength of the 208 process was that it had very high levels of public participation, particularly from citizen leaders from the League of Women Voters, and from local Resource Conservation Districts.<sup>42</sup>

Sadly, during the 1980s, most 208 plans were shelved, and their excellent concepts have fallen by the wayside. Reasons for the failure of the 208 process, in addition to the overall lack of implementation mandates and other administrative problems listed above, include lack of funding; EPA timidity in issuing stringent guidelines, and in linking 208 implementation with mandates to achieve water quality standards;<sup>43</sup> and the turf battles that flare up when watershed boundaries cut across political boundaries.

Earlier, we described sluggish progress in employing a number of other tools, basic to the CWA, that have potential power to stem the flow of runoff. These include water quality standards, the 303(d) TMDL (Total Maximum Daily Loads and Wasteload Allocation) approach, 305(b) assessments, and other basic CWA tools. Water quality standards and their implementing mechanisms, including effective state antidegradation programs, are especially important to the success

of runoff reduction programs, and are crucial to runoff programs for two basic reasons:

- \* All programs to control poison runoff must be designed to achieve compliance with water quality standards;<sup>44</sup>
- \* At least before 1987, water quality standards formed the principal legal authority for controlling pollution generated by various land use activities.

Volunteers Needed to Help States Fill the Runoff Monitoring Gaps

Water quality standards must work hand-in-hand with well-targeted monitoring and assessment programs in order to be effective for any pollution control program, including runoff control. Section 305(b)(1)(E) of Clean Water Act requires that the biennial state water quality assessments include:

... a description of the nature and extent of nonpoint sources of pollutants, and recommendations as to the programs which must be undertaken to control each category of such sources, including an estimate of the costs of implementing such programs.

Nonetheless, an EPA report on the main elements of State water pollution source monitoring programs suggests that, at least as of 1987, they were characterized by point-source "tunnel vision:"

- 1) self-monitoring of effluent by industrial and municipal dischargers; 2) compliance sampling inspections to cross-check discharger self-monitoring; and 3) effluent characterization studies for industrial dischargers. One of the five major "challenges" set forth for EPA in this study is to "Identify and Characterize Toxic, Conventional, and Anthropogenic Pollutants from Nonpoint Sources" (emphasis added). This report also recommended an in-depth study of the feasibility of initiating a "Citizen's Watch Program."

Both of these recommendations, if they were to be followed by EPA, would have major benefits for the ability of the States to characterize the threats and impairments due to land-based sources of pollution.<sup>45</sup> The good news is that apparently many States are now beginning to shift their monitoring efforts into land-based sources of water pollution, at least according to one 1992 report described in the next section.

The early 1980s represented perhaps one of the lowest periods in the history of poison runoff policy. Funding for the 208 program was gutted in 1981.<sup>46</sup> Then, in 1983, EPA contended that the Agency had no direct role in controlling poison runoff. In addition, the Reagan Administration actively opposed the establishment of a new, comprehensive runoff control policy.<sup>47</sup> Obviously dissatisfied with the lack of progress made by states in stemming the flow of runoff, Congress created new requirements in the 1987 Clean Water Act. For the first time, poison runoff was addressed head-on in a new section of the Act.

**Section 319: Congress Put Increased Emphasis on Runoff Programs in 1987**

In 1987, Congress created Section 319 of the Clean Water Act, designed to get States to identify waters damaged or threatened by runoff sources, and to develop comprehensive programs to heal those waters by reducing and eliminating pollution from those land-based sources. This program was not completely new; rather, it gathered up provisions for runoff controls dispersed throughout the Act and EPA guidance, and corralled them into one program.

This section of the Act strengthened the substantive standard for runoff control program effectiveness by requiring, in 319(a)(1)(C), nonpoint source reduction, "to the maximum extent practicable." By contrast, the earlier 208 programs were held to a much weaker standard of runoff reduction "to the extent feasible." As NRDC observed in Poison Runoff, the new standard of "maximum extent practicable" "will demand a higher level of control and a more stringent standard of proof before degradation or downgrading can be permitted."<sup>48</sup> Unfortunately, the promise of section 319 has not been fulfilled. True, there have been some notable success stories, described below. On a national basis, however, significant progress has not been shown under the new program.

#### B. Watershed Restoration Success Stories

Although Congress intended for the states to structure their poison runoff control programs as much as possible on a watershed basis (319(b)(4)), many states did not do so, choosing instead to write management plans based upon generic management practices intended to apply to all lands within each major land use category in the State. Some states, like Wisconsin, are exceptional in that runoff control is part of a comprehensive, watershed-based restoration and protection program that targets specific watersheds throughout the State. Other States are notable for individual watershed programs that stand as shining examples for others to follow. Three such programs are described briefly below.

Owl Run watershed, in Fauquier County, Virginia, has a major nutrient and animal waste problem that contributes to dissolved oxygen and other water quality problems in the Chesapeake Bay. In response, the Virginia Division of Soil and Water Conservation, in cooperation with conservationists at the John Marshall Soil and Water Conservation District, are helping farmers to reduce manure pollution through a variety of techniques. Management practices in the 2800-acre watershed include soil testing and the creation of nutrient budgets, no-till cropping and filter strips, and the construction of manure storage tanks. Cost-sharing can cover up to 100 percent of the farmer's installation costs. The purpose of the project is to show that these kinds of practices are effective on a whole-watershed basis in reducing pollution. The water quality goals around which the project is designed include both in-stream, and downstream (Chesapeake Bay) restoration.<sup>49</sup>

Big Darby Creek Watershed, Ohio. This multi-party project in central Ohio, coordinated by the Nature Conservancy, proves that farmers and environmentalists can be friends. A major goal of the project is to enroll 75% to 100% of the watershed's farmers in a conservation tillage program; roughly 15% of the watershed's farmers now use conservation tillage. Cooperation and rapport have been enhanced by the knowledge that Big Darby is a unique ecosystem with many endangered or threatened species of mussels and fish, and by the now-famous canoe trips in which each canoe holds a farmer and an environmentalist, who survey the riparian zones together as they glide down the river. Many farmers in the 370,000 acre watershed are also installing forested buffer strips with the help of state foresters. The project's 1992 budget totalled more than \$750,000, with monies obtained from the Soil Conservation Service, TNC, Environmental Protection Agency, and other agencies and groups. Big Darby is not a purely agricultural watershed. A remaining "wild card" for the fate of the headwaters is whether suburban developers, seeking to supply wealthy residents of Columbus with low-density "country" housing, will be convinced to adopt water-sensitive practices of their own.<sup>50</sup>

Big Spring Basin, Iowa. The Iowa Department of Natural Resources, Geological Survey Bureau, has helped to make the Big Spring Basin famous for nitrogen input reductions that have saved farmers money while they reduce water pollution. Through a state cost-sharing program and extensive technical outreach to the roughly 200 Basin farmers, a reduction of over 1.2 million pounds of applied nitrogen was achieved between 1981 and 1989. This input reduction achieved a savings of about \$200,000 per year, or an average of \$1,000 per year per farm. With crop rotations that have farmers

planting corn following alfalfa, maximum yields are often obtained with no addition of nitrogen to the soil.<sup>51</sup>

These "watershed success stories" are cause for hope that whole-watershed restoration works, that cooperation between different stakeholders can be gained, and that farmers are willing to adopt water-sensitive practices once they are convinced of three things: 1) that such changes are needed by an ailing or vulnerable ecosystem; 2) that such changes will not bankrupt their farm (and may even save them money); and 3) that the risk and burden of adopting new practices is shared equally among all other farmers and landowners in the watershed.

The three examples given -- Owl Run, Darby Creek and Big Springs Basin -- are voluntary programs. Their premise is that, given ample time, money, and technical outreach, all farmers will "volunteer" to "do the right thing." Unfortunately, these programs may not be support in all impaired or threatened watersheds in each state, since ample grant monies to replicate their very favorable cost-share ratios statewide simply do not exist. The need for urgent action in the case of impaired watersheds, and the need for accountability, demand more than voluntary programs.

C. Recent Federal Oversight Shows EPA's Implementation of the 319 Program has Lacked Vision and Leadership

The EPA's Office of Policy, Planning and Evaluation (OPPE) reviewed the 319 program in the summer of 1992 at the request of the Office of Water. The study looked at 10 sample state programs, as well as the management policies at the EPA

headquarters and regions. The report reached 12 findings about what's right -- and what's wrong -- with the 319 program:

- 1) Because of the diverse nature of NPS [nonpoint source] pollution, there is no single definition of a NPS program.
- 2) Authority for Implementing State Management Programs is generally decentralized.
- 3) The extent to which States are institutionalizing their NPS programs varies widely.
- 4) The majority of the ten States do not have NPS programs oriented toward improving water quality on a watershed-specific basis. (Emphasis added.)
- 5) State Management Programs generally cannot be used to gauge the States' progress in implementing NPS controls.
- 6) Flexible guidance has enabled States to use 319 resources to address numerous NPS priorities.
- 7) States concentrate their use of 319 resources to focus on different priority activities.
- 8) The majority of States are making some effort to monitor the effectiveness of BMP implementation, though water quality impacts due to implementation of 319 are as yet unknown.
- 9) Section 319 has facilitated increased communication and coordination among agencies and organizations to develop and implement the State Management Programs.
- 10) Although most EPA Regional EPA Offices use several staff to address NPS pollution, few staff are dedicated specifically to assisting States to implement management programs or 319 grants.
- 11) EPA Regional office implementation of the 319 grant program varies considerably across EPA regions.
- 12) EPA provided States the opportunity to develop diverse NPS programs, but has not yet defined a vision or role for a national NPS program.<sup>52</sup> (Emphasis added.)

OPPE then made the following two recommendations: a) the Office of Water should emphasize more clearly that a watershed

protection approach should be the basis of State NPS programs; and b) Office of Water and Regional Offices should clearly define EPA's goals, strategy and role for the national NPS program.<sup>53</sup>

One of OPPE's most important findings was that "The majority of the ten States do not have NPS programs oriented toward improving water quality on a watershed-specific basis." Furthermore, "the majority of [State Management Programs] do not identify strategic plans or milestones for achieving water quality goals for specific waters identified in their Assessment Reports."<sup>54</sup> Thus, the requirement of section 319(b)(4), that States shall, to the maximum extent practicable, develop and implement management programs on a watershed-by-watershed basis simply has not been enforced by EPA. Although of course some state-to-state variation is expected and even desirable in the 319 programs, the report clearly suggests the need for more program focus at both the federal and the State levels.

#### Lack of Adequate Funding

The General Accounting Office (GAO) also reviewed section 319 program implementation in 1990. GAO found that:

"officials in five of the states we visited identified the lack of resources as a key barrier to controlling nonpoint source pollution. Although some states have or will allocate million of dollars to deal with the problem, they maintain that it would require billions to correct."<sup>55</sup>

The total 319 appropriation for the past four fiscal years -- roughly \$200 million -- represents a drop in the bucket, compared both to present program needs, and to the total \$50 billion investment the nation made in sewage treatment, (significant

given that poison runoff pollution dwarfs the sewage treatment challenge of the early 1970s).

D. Summary of Findings on Existing Runoff Control Programs, and Prescriptions for Changes Needed

As is true for many outstanding water quality problems, there are major gaps in the development and use of the Clean Water Act's basic tools for reducing poison runoff. Their absence is perhaps most acute within the context of fledgling state poison runoff control programs, partly because the tool of NPDES discharge permits is usually not available to give these programs the "backbone and bite" of an automatic enforceable mechanism. Thus, the relative weakness and underdevelopment of the tools that are available to runoff managers -- water quality standards, water quality assessments targeted to land-based sources, TMDLs, and whole-watershed plans -- has hindered progress in stemming the flow of poison runoff.

E. On the Need for New Water Quality Criteria Relevant to Runoff Impacts

Although EPA took a quantum leap forward with the publication of its document "Biological Criteria: National Program Guidance for Surface Waters" (April 1990), few states have acted to use biocriteria in important ways in assessment and/or permitting. No water quality standards at the State or federal level have been established to protect physical or hydrological features of aquatic habitat, such as the destruction of first-order streams noted above in the logging discussion. To protect whole aquatic ecosystems from the abuses of shopping mall

and subdivision development, logging, mining, and other land operations, EPA needs to publish, and the States need to implement, water quality criteria for the following factors:<sup>56</sup>

- \* biocriteria, such as EPA's recommended use of the Index of Biotic Integrity, first developed by Dr. James Karr and colleagues;
- \* habitat protection criteria for example, for pool-and-riffle complexes;
- \* drainage density metrics including minimal preservation and restoration of first-order streams;
- \* complete hydrologic specifications including year-round flow minima and minimum streamflow percentages of groundwater;
- \* seasonal and annual sediment loadings;
- \* nutrients (for eutrophication, not acute toxicity); and
- \* current-use pesticides.

In its review of EPA's management of the overall poison runoff program, the GAO listed the lack of appropriate standards as a key barrier to progress:

'Criteria documents' and other technical information are not available to states to enable them to set water quality standards for nonpoint source pollution...State and federal officials told us that existing state water quality standards need to be supplemented because they were developed primarily to address point source problems and consequently have limited applicability in controlling nonpoint source pollution.<sup>57</sup>

Summary and Conclusions on the States' Poison Runoff Management Programs under the 1987 Clean Water Act

In summary, there are many reasons why the 319 program, as implemented over the past five years, has failed to heal waters and watersheds damaged by land uses and abuses:

- 1) lack of watershed basis for the programs;

- 2) lack of adequate funding, especially for program staff at all levels;
- 3) inadequate enforcement of the mandate for States to require water-sensitive practices to be adopted wherever monitoring indicates a problem, or where pristine conditions indicate the need for protection;
- 4) major monitoring gaps;
- 5) inconsistent goals of other powerful federal programs, which thwart poison runoff control efforts;
- 6) continued reliance by the States on ineffective voluntary compliance for the adoption by landowners of water-sensitive practices;
- 7) reluctance to create relevant water quality standards to make the program meaningful; and
- 8) diffuse responsibility for the program; often administered and overseen by agencies that lack a primary water quality focus.

As a result of these major obstacles, our national poison runoff policy is based upon a voluntary, piecemeal approach riddled with inconsistencies, ineffectiveness, and massive gaps in funding, monitoring and staffing. As a result, we now have 50 individual runoff assessment and management programs that are all over the map in terms of comprehensiveness, stringency, degree of public participation, accountability, funding commitments, and in-stream effectiveness. And most programs fall on the voluntary, all-carrots-and-no-sticks side of the spectrum. Major strengthening changes are required in order to transform 319 into a publicly accountable and ecologically and economically effective program; unless these changes are made, it is likely to continue to be ineffective.

F. The New Coastal Runoff Program Bears Promise, But Its Geographical Scope is Limited

As part of the 1990 Coastal Zone Act Reauthorization Amendments ("CZARA"), Congress welded two existing programs -- the States' Coastal Zone and Clean Water Act Section 319 programs -- into a single, powerful approach to preventing and reducing runoff pollution in coastal watersheds (including the Great Lakes). The centerpiece of CZARA is the implementation of enforceable management measures to reduce polluted runoff by specific land uses. Management measures are defined in Section 6217(g)(5) of CZARA as:

"economically achievable measures for the control of the addition of pollutants from existing and new categories and classes of nonpoint sources of pollution, which reflect the greatest degree of pollutant reduction achievable through the application of the best available nonpoint pollution control practices, technologies, processes, citing criteria, operating methods, or other alternatives."

The phrase "greatest degree of pollutant reduction achievable" is more stringent than the "maximum extent practicable" standard for BMPs under Section 319. Other important provisions of CZARA include:

- \* the extension of coastal zone boundaries farther inland, to control the land and water uses that have a significant impact on coastal waters;
- \* implementation of additional management measures, where necessary to meet or protect water quality standards and to protect the waters of critical coastal areas;
- \* use of enforceable policies and mechanisms to implement the management measures; and
- \* program coordination to ensure consistency of this new coastal zone program with Clean Water Act programs under Sections 208, 303, 319, and 320.

For those who had grown weary of the haphazard nature of the BMP lists in the State runoff control programs under Section 319, the CZARA program looked like it might provide fairly seamless coverage of water-sensitive practices across wide swaths of coastal zones. The second major advantage of CZARA over the 319 program is that it requires EPA to provide the States with definite guidelines for those water-sensitive practices. Under CZARA, States will have to implement management measures in their coastal zones that are consistent with EPA's minimum management measures, thus removing some of the randomness (and weakness) that characterizes many 319 programs. EPA's final CZARA management guidance was issued in January, 1993.<sup>58</sup>

Environmentalists and some progressive State administrators urged EPA and NOAA (who jointly administer the program) to base the management measures on objective, measurable criteria to ensure their effectiveness and accountability from state to state. Unfortunately, EPA and NOAA did not always heed this advice. For example, the draft guidance for controlling sediment pollution from farms originally would have required farmers to reduce erosion to the specified levels (the "T" soil loss tolerance standard). NRDC and several other organizations supported this standard. Although less than perfect, it would afford an objective performance standard around which each coastal zone farmer could structure site-tailored erosion controls. In the final guidance, however, EPA caved to pressure from commodities groups and other agricultural special interests,

and recast the agricultural erosion control measure as the "Alternative Conservation Systems" described in the Field Office Technical Guides of the SCS. ACSs are generally sound practices, but provide little objective guidance to judge whether a farm has adopted sufficient erosion control practices.

Despite this weakening of the performance requirements for some of the management measures, however, the CZARA program remains a model for strong State runoff reduction programs. State implementation of required management measures for each land use category would improve 319 programs greatly if it were adopted for all watersheds, not just those in the coastal zone.

The coastal zone runoff program also contains some management measures, like vegetated riparian buffers, designed to protect and restore urban waters. Urban watersheds are severely degraded by a multitude of runoff sources. Federal and State money and leadership are needed to create community programs that restore urban streams to full vitality; we describe these problems and solutions in part V below.

IV. The Draft Oberstar Bill Charts the Course for effectively stemming the flow of runoff and healing troubled watersheds

The heart of the polluted runoff prevention policy of the National Clean Water Network is whole-watershed restoration coupled with required site-level water quality planning in the target watersheds, backed up by citizen water quality monitoring efforts. Without each of the three parts of this policy, the success of future watershed restoration efforts will be in jeopardy.

Comprehensive requirements are critical to the effectiveness of both watershed targeting and landowner responsibility in the target watersheds. All watersheds of waters on the "sick lists" -- 305(b); 319(a); and 304(1) -- need to receive some kind of "care" to restore them to full health. And, in order to accomplish the restoration goals in each target watershed, all landowners and operators must be required to tailor water-sensitive practices to their particular site. This latter policy is consistent with the recommendation for farm-level planning in Water Quality 2000, which states

"Farm-level resource management plans should be mandatory for all farms in watersheds where surface waterbodies or groundwater systems are impaired or where there is a probability that these waterbodies or systems will become impaired. Further, in watersheds that are not determined to be threatened or impaired, if individual owner/operators are causing significant pollution or are clearly violating water quality standards and the situation cannot be resolved expeditiously by voluntary programs, these individuals should also be required to develop and implement farm-level resource management plans."<sup>59</sup> (Emphasis added.)

There were sixty organizations that ratified the overall Water Quality 2000 policy document that included this consensus statement on agriculture. The Clean Water Network applies this same watershed-wide, mandatory water quality planning policy to all land use categories in the target watersheds -- logging, mining, subdivision development, as well as farming. Far from singling farmers out for special regulation, we seek to include farmers as full partners, alongside all other land users, in multi-lateral watershed restoration programs.

Last month, Representative James Oberstar (D-Minnesota) circulated a Staff Working Draft of a bill entitled the "Nonpoint Source Water Pollution Prevention Act of 1993." This draft bill charts a well-conceived course for healing watersheds damaged and threatened by polluted runoff, on both private and federal lands. The draft Oberstar bill is strong on two of the Clean Water Network's three essential elements of watershed restoration: comprehensive targeting of impaired and threatened watersheds, and required citizen volunteer water quality monitoring programs as part of each State's revised 319 program.

In order to ensure that the target watershed programs actually accomplish their restoration goals, the draft Oberstar bill should be strengthened to require that all landowners and operators in the target watersheds undertake site-level water quality planning and implementation. We also recognize the need to allow States to exempt, under narrow criteria, land use categories that do not impact water quality in specific watersheds, as well as landowners under significant economic hardship not amenable to cost-sharing and other forms of assistance. The draft Oberstar bill, on the whole, gives the States the explicit guidance they require to craft effective polluted runoff prevention programs.

V. Blighted Urban Waters Mirror Urban Decay -- The Failure of Stormwater Programs and Need for Urban Watershed Restoration.

Urban waters are among the most degraded in the country. Urban streams are concretized and channelized, used as conduits

for stormwater runoff, industrial and municipal effluents, and raw sewage from leaking sewer pipes (often laid lengthwise in streambeds) or from combined sewer overflows. And as if all of this abuse were not enough, many urban streams are obliterated altogether, "enclosed," (a euphemism for transforming a stream into an underground sewer), or (as in the case of many groundwater springs and first-order and ephemeral streams) simply destroyed beneath the treads of earth-moving vehicles preparing the ground for new development.

A. The Degradation of Urban Waters and Watersheds.

According to a 1992 EPA study of the environmental impacts of stormwater discharges, urbanization degrades a disproportionate share of our nation's waters:

While urban population areas take up only about 2.5% of the total land surface of the country, stormwater pollution from these urban areas and associated urban activities (i.e., storm sewers/urban runoff, combined sewers, hydromodification, land disposal, construction, urban growth, etc.) accounts for a proportionately high degree of water quality impairment (i.e., 18% of impaired river miles, 34% of impaired lake acres, and 62% of impaired estuary square miles reported under 319) when compared to that from rural activities (i.e., agriculture, silviculture and mining) which take up approximately 53% of the total land surface.<sup>60</sup>

Urban stormwater pollution thus deserves high-priority attention by citizen activists, water quality officials and other watershed stewards.

The most comprehensive study of urban runoff quality to date is NURP, the Nationwide Urban Runoff Program. NURP was a joint project between USGS and EPA between 1979 and 1983, and it looked at stormwater quality in 28 cities across the country. NURP

found certain pollutants to be virtually ubiquitous in urban runoff, in average concentrations high enough to warrant concern over loadings in downstream sinks -- estuaries like Chesapeake Bay, and lakes like Lake Quinsigamond in Worcester, Massachusetts. Among NURP's key findings:

- \* copper, lead and zinc were each found in at least 91 percent of the samples;
- \* other frequently detected contaminants included arsenic, chromium, cadmium, nickel, and cyanide;
- \* significant average concentrations of total suspended solids, phosphorus, nitrogen compounds, oxygen-robbing organic matter (BOD), and fecal coliform were found.<sup>61</sup>

Using national average runoff pollutant concentration data derived from the NURP study, NRDC made coarse estimates of runoff pollutant loadings for heavy metals, oil and grease, BOD, nitrogen, and phosphorus for seven urban areas around the country: Baltimore, MD; Washington, D.C.; Harrisburg, PA; Tidewater, VA; Los Angeles, CA; Atlanta, GA; and Cleveland, OH. Although the results varied from city to city, these "Poison Runoff Indexes" showed that runoff rivals, and in some cases surpasses, factories and sewage plants as a source of these pollutants. For instance, in most of the urban areas modeled by NRDC, zinc loadings from runoff exceeded the loadings from factories in the State or region.<sup>62</sup>

The NURP authors described the water quality impacts of urban runoff as falling into three categories:

- \* short-term receiving water impacts during or following storm events (where pollutant concentration is important);

- \* longer-term downstream receiving water effects -- the buildup of contaminants in the sediments of "sinks" like river mouths, lakes, and bays (where seasonal or annual pollutant mass loads are important). (Although NURP did not examine in detail this phenomenon, NURP data enable coarse estimates to be made of runoff annual mass loadings from large urban areas.)
- \* physical effects of stormflows on the hydrology and geomorphology of urbanized watersheds -- including stream channel scouring (NURP did not examine this third type of effect, but acknowledged its existence.)<sup>63</sup>

One logical outcome of NURP's acknowledgement of this wide range in receiving water effects from urban runoff is the creation of comprehensive watershed restoration programs. An example is the program developed for the Anacostia River, which flows through Washington, D.C. and into the Potomac River after collecting urban stormwater from dozens of tributaries in suburban Maryland. The Anacostia is well-known both for its severe degradation, and for the extraordinary vision and commitment of the local governments now working for its restoration. The Six-Point Action Plan for the Anacostia's restoration is keyed to a list of six problems that could apply to dozens of urban watersheds nationwide:

- 1) Poor water quality: The tidal Anacostia estuary has some of the poorest water quality recorded in the Chesapeake Bay system...rapidly filling with sediment and debris...low dissolved oxygen levels...sediments contaminated with toxics...
- 2) Ecological degradation: Dozens of miles of stream habitat have been severely degraded by uncontrolled runoff, and in some cases by engineering "improvements." Urbanization has profoundly altered the flow, shape, water quality, and ecology of these streams, many of which possess only a fraction of their original biodiversity.

- 3) Loss of anadromous fish habitat: As many as 25 man-made barriers prevent the upstream spawning migrations formerly made by menhaden, yellow perch, herring, and striped bass.
- 4) Loss of wetlands: Over 98 percent of the once-extensive tidal wetlands and nearly 75 percent of the watershed's freshwater wetlands have been destroyed.
- 5) Deforestation: Nearly 50 percent of the forest cover in the basin has been lost due to urbanization. The most severe losses have occurred in the riparian zones, where trees play a critical role in maintaining stream water quality, preventing streambank erosion, and providing both aquatic and terrestrial habitat.
- 6) Lack of public awareness: The 600,000 residents of the basin are generally unaware that they live in the Anacostia watershed. They do not perceive their connection to the river and its unique natural features...the desire to take part in their watershed's restoration and to become stewards is largely unfulfilled.<sup>64</sup>

Despite all of this degradation, urban streams, lakes and bays are still oases of life for millions of urbanites. Jamaica Bay is one example. Like many city waterbodies, Jamaica Bay is oddly wild, given that it lies within the boundaries of New York City, is bordered by Brooklyn and JFK Airport, and its waters are affected heavily by a mixture of urban runoff and sewage effluent. According to some of Jamaica Bay's stewards,

"...fishing for sport and food has long been a favorite recreational activity in the park. Weekend fishermen line the railings of bridges and piers while others venture out in personal boats or charter fishing boats in hopes of a good catch."<sup>65</sup>

The City of New York Department of Parks and Recreation, and the managers of the Gateway National Recreation Area, recently surveyed 450 fishermen who fish from the shores and bridges of Jamaica Bay. The survey revealed that 304 of the fishermen, or two-thirds, eat the fish they catch, despite the fact that it is

contaminated with low levels of PCBs.<sup>66</sup> And Jamaica Bay is not unique. People of all ages can be seen fishing for crayfish in Sligo Creek, an Anacostia tributary, in Takoma Park, Maryland; and for catfish off of bridges over the Charles outside of Boston. People fish regularly in Lake Erie off of the 55th Street pier in Cleveland, and off of wharves in South San Francisco Bay. The fact that at least some of these people eat what they catch, even if it may be contaminated, is not a reason to shut these active fisheries down. It is a reason to work with a sense of urgency to reduce and eliminate the toxics now flowing into them.

B. Amending the Municipal Stormwater Permit Provision:  
Creating Meaningful, Affordable Stormwater Programs

The 1987 amendments to the Clean Water Act included section 402(p) (discussed in the previous section), which set forth stormwater permitting requirements for large and medium cities, and for all industrial manufacturing sites that discharge stormwater. Under EPA's implementation of 402(p), a total of 173 cities with populations of 100,000 or greater, and 47 counties with unincorporated populations of 100,000 or more were required to have stormwater permits by October 1, 1992.<sup>67</sup>

Most of these municipalities have now applied for their initial permits (Part I), and have conducted stormwater pollution studies to develop city-wide stormwater management programs (Part II). However, because EPA has not provided the States with substantive performance targets (such as the minimum urban area that must be covered by well-accepted stormwater management

measures) for the permits, urban citizens and stormwater utility ratepayers may have little or no assurance of permit program accountability and effectiveness. In addition, even EPA's own recent stormwater literature points out the need to expand the scope of regulation to additional large urban areas:

"The 220 Phase I NPDES municipalities have a combined urban population of 78 million. The remaining 80 million people located in urbanized areas are outside of Phase I municipalities. Most urban growth occurs in the urban fringe areas outside of core cities. For example, between 1970 and 1980, the population of incorporated cities with a population of 100,000 or more (Phase I cities) increased by only 0.6 million, with the population of many of these cities decreasing. Between 1970 and 1980, the population of urbanized areas outside of cities with a population of 100,000 or more increased 30 times more (an increase of 18.9 million) than the population of these core cities. This is important from a stormwater perspective as numerous studies (e.g., NURP) have shown that it is much more cost effective to develop measures to prevent or reduce pollutants in stormwater during new development than it is to correct these problems later on."<sup>68</sup>

Thus, there are as many large urban areas currently outside of the NPDES stormwater permitting system as there are cities beneath the NPDES umbrella. This "regulatory gap," as the quote from EPA above makes clear, is all the more crucial considering that the areas left out of the NPDES umbrella are experiencing the most rapid growth rates, and thus have the most urgent need for immediate establishment of water-sensitive master plans and site design practices, before excavation and building ever begin. As one recent EPA report on the environmental quality impacts of land use observed,

"...the significance of the [urban] sector is not how much land is in urban acres, but instead where the land is located, the implications and rapacity of recent development patterns, and the likelihood that future development will

draw land out of other uses valued by society -- agricultural lands, wetlands, or open space."<sup>69</sup>

The concept of "pollution prevention," a congressional mandate under the Pollution Prevention Act of 1990, ideally would work hand-in-hand with the Clean Water Act stormwater program the following runoff prevention and reduction hierarchy:

- 1) for new development: runoff prevention through mapping and preservation of natural drainageways, preservation of mature forest zones along waterways, and caps on the amount impervious surface;<sup>70</sup>
- 2) for redevelopment and retrofitting of existing developed areas: runoff reduction through revegetation, impervious surface reclamation (e.g. retrofitting parking lots with grass swales designed to capture and filter the lot's runoff, thus preventing or severely reducing the need to discharge to a nearby stream);
- 3) chemical source controls and toxics use reduction (e.g. policies that require lawn service companies to test lawns for nutrient content and pest problems before applying chemicals, in order to reduce lawn chemical use); and
- 4) conventional "end-of-pipe" stormwater treatment devices, such as extended detention ponds, infiltration trenches, and catch basins.

#### Effective Stormwater Programs Are Affordable and Cost-Effective

##### **New Development**

Prevention-based stormwater controls are known to be more cost-effective than the usual dominant reliance on end-of-pipe retention ponds that has characterized stormwater programs in such regions as suburban Maryland. The new town development project called Woodlands, Texas, pioneered "Design With Nature" as a stormwater management concept in the early 1970s and showed that the natural drainage/vegetative retention option saved over

\$14 million for the development, a four-fold savings over the estimated costs of conventional stormwater management.<sup>71, 72</sup> The lesson here is that cost-saving and water-protective measures have been known to the development community for at least two decades; the problem is that lax and fragmented local government planning and zoning procedures have thwarted the widespread use of these design principles. The new coastal nonpoint pollution control program contains a site design management measure that is a step in the right direction towards "prevention design" for stormwater management.

#### **Existing Development**

Recent testimony given before the Subcommittee on Water Resources referred to "unproductive permit application costs" and "unconscionable permit program costs" for the municipal stormwater permit programs.<sup>73</sup> It is important to examine the assumptions underlying the "unconscionable costs" referred to by a representative of the California Stormwater Quality Task Force. These costs cited in this case relied on a "worst-case," full-end-of-pipe stormwater capture and treatment scenario that includes "major structural controls for floatables, metals, microorganisms, and nutrient removal," and assumed that lime precipitation, filters, and chlorination/dechlorination were applied to stormwater detention basins in the permitted municipalities.<sup>74</sup> This is a highly unrealistic scenario, given current discussions about effective elements in municipal stormwater programs.

We acknowledge, and agree with the California Stormwater Quality Task Force, that the cited Annual Operation and Maintenance Cost figure for this worst-case scenario, roughly one-half trillion dollars for the nation, is absurd and unconscionable. Yet no environmental group to our knowledge has contemplated or advocated this "worst-case scenario;" in fact, representatives of NRDC and other groups in the National Clean Water Network have engaged in a constructive dialogue with representatives of the California Stormwater Quality Task Force aimed at crafting a compromise policy for the municipal stormwater permits.

This compromise policy is still being crafted, but centers on requirements for minimum management practices. Such practices could include pragmatic measures such as illicit discharge elimination; parking lot oil and grease filters or runoff reduction; local zoning and planning changes to incorporate prevention into stormwater management design; and regular catch basin cleaning. These practices, according to the same APWA study that included the "worst-case scenario," are well within the boundaries of "best-case" (more affordable) scenarios that range from roughly \$ one billion, to \$ 86 billion, in estimated total annual O&M costs.<sup>75</sup> Even the \$86 billion O&M figure for these more pragmatic approaches, that the APWA study calls "BMP Level 3" and includes construction of some source controls, is over six times less expensive than the estimate worst-case scenario.

These stormwater programs need not be financed solely through federal appropriations, though technical and administrative budgets need to be beefed-up for EPA and State stormwater programs. Quite the contrary, local funding mechanisms are well-known to stormwater managers, and include local or regional stormwater utilities, which rely on dedicated user charges related to the level of runoff management provided to parking lot owners, subdivision dwellers, and office park managers.<sup>76</sup>

#### Conclusion

For both new urban development, and existing development, prevention-based stormwater practices for Clean Water Act "402(p)" programs are available that are cost-effective, affordable, and amenable to financing through use of a variety of funding sources including stormwater utilities. The challenge to Congress, EPA, and the States is to articulate a stormwater permitting policy that contains cost-effective minimum mandatory practices known to protect urban waters, and to provide funding for sufficient technical and programmatic support to municipal managers.

C. On the Need for An Urban Watershed Restoration Program in the Clean Water Act.

Stormwater permit programs are but one element in effective comprehensive watershed restoration programs that highlight the importance of urban waters to inner-city dwellers, rely on local citizen groups and municipalities to initiate and structure long-term restoration strategies (that may include community-based

studies like surveys of urban fishing patterns, and locally-based skilled jobs like urban forestry), and channel federal dollars to priority urban watersheds to help fund the restoration work.<sup>77</sup> Such programs would help to focus the energies of urban activists into the work of "re-greening the urban landscape," enshrining this ecology goal as a critical part of the Clean Water Act's goal of "fishable, swimmable" waters for all Americans.

On the Need for Jobs Within Urban Watershed Restoration Projects

In restoring our degraded urban watersheds, we will help to build the skill level and the economic self-reliance of the inner city work force. New generations of skilled and semi-skilled workers are needed to restore damaged wetlands and floodplains and to design and build riparian buffer strips, runoff detention ponds, and combined sewer overflow storage tanks, all of which can be part of new urban watershed restoration programs.

It is critical that all urban watershed restoration programs, targeted to waters as diverse as the Anacostia in Washington, D.C.; the Los Angeles River, or Cleveland's Lake Erie tributaries, have three essential elements: a) primacy of local citizen group and local government leaders (with federal and State government in supportive roles); b) provision of jobs and career paths for inner city youths and skilled/semi-skilled workers seeking employment; and c) emphasis on "bioengineering" restoration, such as constructed wetlands and tree plantings on stream banks. Without these three essential elements, there is little guarantee that our investment in urban watershed

revitalization will yield long-term returns in the form of "self-reliant, green communities."

#### VI. Conclusion

Federal and State water quality managers have historically missed out on opportunities to stem the flow of poison runoff via implementation of several key provisions of the Clean Water Act, most of which were available prior to the 1987 amendments. These key provisions include: development and application of relevant water quality standards; whole-watershed planning and management; spreading the burden of load reductions through Total Maximum Daily Loads; and creating focused, effective State runoff management programs. As a result of the failure to evolve these and other tools into effective runoff reduction and prevention programs on a watershed basis, the waters of the United States continue to be degraded by poison runoff from virtually every category of land use.

New federal and State programs, including the Coastal Zone Nonpoint Pollution Control Program, and municipal and industrial stormwater permits, provide new opportunities for States and EPA to eliminate the foot-dragging and unfocused, piecemeal approach to runoff control that occurred in the past. Whole-watershed management approaches are needed to tie together urban and rural dwellers in the goal of restoring their common waterways to full health. Such programs offer the promise that we can correct the mistakes of the past and actually stem the flow of poison runoff. Crucial to the success of these programs is the formidable

political challenge of establishing enforceable requirements for water-sensitive land use practices and site designs that accrue to all of a watershed's landowners in a fair and equitable manner.

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40. House Committee on Public Works and Transportation; 1980 oversight hearing on the 208 program, 16 and 18.
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42. According to a longtime water policy activist with the League of Women Voters of the United States, there were "tens of thousands of meetings on 208 plans nationwide over a three-year period in the mid-1970s, and LWV members headed many of the 208 committees...virtually every local League was into the 208 process." Marilyn Reeves, former Board member, League of Women Voters of the United States. Personal communication, May 15, 1992.
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44. To quote from Poison Runoff,

"...the degree to which poison runoff can be controlled dictates whether or not designated uses of individual waters are considered attainable:

'At a minimum, uses are deemed attainable if they can be achieved by the imposition of effluent limits...and cost-effective and reasonable best management practices for nonpoint source control. 40CFR 131.10(d), 131.10(h)(2); 33 U.S.C.1315(b)(1).'

In effect, a state cannot legally decide that the minimum fishable/swimmable goal of the Clean Water Act is not attainable in a particular surface water unless the state has developed a poison runoff control program that controls nonpoint sources to the maximum extent practicable, and still is unable to achieve fishable/swimmable water quality. Similarly, under EPA's antidegradation regulation, even where water quality is better than necessary to protect designated instream uses, allowing further degradation is prohibited unless, among other requirements, the state assures the achievement of "all cost effective and reasonable best management practices for nonpoint source control." 40 CFR 131.12(a)(2); 33 U.S.C. 1313(e).

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comprehensive approach to development incorporating all of these [water-sensitive site design] goals is Woodlands New Community located north of Houston, Texas, planned and designed by Wallace, McHarg, Roberts and Todd, Landscape Architects and Planners, Philadelphia, Pennsylvania.... In the original planning, engineers compared the cost of the natural drainage system to that for a conventional approach and found that the natural drainage option saved over \$14 million." Id. 61, 3.1-7.

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**STATEMENT OF AMERICAN FARM BUREAU FEDERATION  
TO THE HOUSE PUBLIC WORKS AND TRANSPORTATION SUBCOMMITTEE  
ON WATER RESOURCES AND ENVIRONMENT  
REGARDING CLEAN WATER ACT REAUTHORIZATION**

**Presented by Keith W. Eckel  
President**

**Pennsylvania Farm Bureau  
and  
American Farm Bureau Federation Board Member**

**April 22, 1993**

Thank you Mr. Chairman. My name is Keith Eckel, and on behalf of the American Farm Bureau Federation we appreciate the opportunity to speak to you about the reauthorization of the Clean Water Act. Water quality is of great interest to Farm Bureau's nearly four million member families. Farm families have an inherent self interest in protecting water quality. Our families, our livestock and our crops and our land are usually the first to be affected by a degradation of water quality.

From the perspective of farmers and ranchers, there are three broad aspects to the Clean Water Act that need your attention. First, a non-point source program that retains the basic tenants of the current 319 program. Second, is the need for a clear, comprehensive wetland policy. And third, an adequate commitment of resources to make it work.

### **NONPOINT SOURCE**

This issue has been a priority for farmers and ranchers for many years and there is a tremendous amount of activity on farms and ranches across the country. Farmers are reducing erosion and increasing efficiency of chemical use. For example:

- ♦ Soil erosion has been reduced 90 percent or more on 35.5 million acres of land that is in the Conservation Reserve Program,
- ♦ Crop protection chemicals used by farmers are down 20 percent from 1982, and
- ♦ Corn's nitrogen fertilizer use efficiency is up 14 percent since 1980.
- ♦ Implementation of conservation compliance plans on highly erodible soils is slightly ahead of the expected rate with 58 percent of planned acres fully implemented. (See attachment #1 and #2.)
- ♦ Over 88 million acres of cropland are under conservation tillage systems providing residue cover of 30 to 90 percent,
- ♦ An additional 73 million acres of cropland has 15 to 30 percent residue cover providing substantial erosion control benefits, particularly in small grain production areas of the great plains.

- ♦ "No-till" farming practices soybean acres quadrupled between 1989-1992 to 8.2 million acres.

*"The assumption that American agriculture is incapable of far-reaching change is not true; the changes we have seen in tillage and pest control over the past 20 years would have been considered revolutionary in 1969." —Dr. R.G. Hoelt and E.D. Nafziger, University of Illinois*

As an industry, we are more mindful of the potential for adverse impacts of our activities. The process of education and promoting awareness began many years ago. Attached is a summary of several of the environmental initiatives that American Farm Bureau Federation has had on-going over the last 10 years which support the effort to protect our water resources. (See attachment #3.)

As with many issues, perception and reality often tend to reach different conclusions. Despite the perceptions, all indications are that surface water quality is improving and the trend will more than likely continue in that direction for some time. Senator Chafee has noted that 80 percent of the nation's waters now meet the Clean Water Act's goal of being fishable and swimmable. That is something we ought to be shouting about! We are making great progress!

We believe, Mr. Chairman, that it is important for the general public to know that whatever water problems exist in rural America they are manageable problems. We are not in a

water quality crisis situation.

Agricultural chemicals are also often perceived as one of the "major threats" to water quality. However, the EPA National Pesticide Survey went looking for 126 pesticides and or breakdown products in rural drinking water wells and community wells and **DID NOT** find 110 of them. Those that were found were generally present at levels that were not threatening to human health.

Our members have been testing their own wells in record numbers through cooperative programs developed by Farm Bureau. More than 40,000 wells in 19 states have been tested for nitrate. More than eighty percent of the tests showed nitrate levels in the range of what is normally considered naturally occurring background levels.

Mr. Chairman, modern agricultural technology should not be viewed as the problem, but rather the solution. The amount of cultivated land in the United States is approximately 340 million acres. That is approximately the same amount of land in production at the turn of the century. However, the U.S. population (consumers) has increased by 179 million people, while the number of farmers has steadily declined. Farmers account for less than one percent of population today. Despite these trends we have not only been able to meet the rising domestic demand for food consumption, but we are exporting approximately 30 percent of our production abroad. Furthermore, we are today idling more land to conservation than ever before and employing better conservation on the land we crop. If it were not for the advances in technology, our domestic demand for food could require as much as 800 million acres of additional cropland. It is **because of technology** such as pesticides and fertilizers and increased efficiencies produced through agricultural research, that land is **now available** for conservation set asides, wetland restoration, wildlife habitat, forest restoration, parks and

wilderness areas. And, similarly, 99 percent of the population is free to pursue occupations other than self-sustenance. Today we have more woodlands, more wildlife, more conservation, than at anytime in over a century. That has had and will continue to have a benefit to water quality.

When setting policy, it is important to look at the long-term trends and avoid decisions based on historical snapshots. In the state of Iowa for example, the use of commercial fertilizers have been blamed for elevated levels of nitrate in the Des Moines River. Ironically however, the Leopold Center for Sustainable Agriculture at Iowa State University has recently issued a report that calls this into question. Their research found that nearly 50 years ago, before commercial nitrogen fertilizers began to be used extensively, the nitrate level in the river was already nearly the same as it is today. It is important that we understand the nature of the problem in order to effect the right solution.

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As this Committee prepares to reauthorize the Clean Water Act provisions addressing nonpoint source runoff, I would like to offer several observations that come from our experiences in working with landowners on water quality issues.

1. Farmers and ranchers want to do what is right for the environment. They will respond to problems when provided with sound, scientifically based information and reliable cost-effective solutions.
2. Our public policies affecting water quality should be based on fact, not perception. There is a critical need for continued research and a greater understanding of the site-specific linkages between farm practices and water quality. We ought to have the facts to support policy. The cost of being wrong is simple too great. Sound policy must be based on more than grab samples and generalizations.
3. We believe the programs and solutions that work best are those that come from the grass-roots up. Achieving improved water quality practices is best accomplished by voluntary, locally designed and implemented site-specific solutions. We should avoid the temptation to adopt "one-size-fits-all solutions". In looking at the successes of USDA's Rural Clean Water Program, it was clear that the more local people took control of the effort, the better the results.

It is equally important to realize that these practices must be put into use before any benefit is to be achieved. Therefore, we need a sound, trusted and reliable delivery system of information, technology, and assistance to the farm-gate. The concept of State primacy in Sec. 319 should be maintained.

*"We must realize that we cannot turn the clock back to the good old days of the 1930's when the world population stood at 2 billion people and few agricultural chemicals were used. Given current scientific knowledge, it is my belief that the judicious use of agricultural—especially chemical fertilizers—is absolutely essential to produce food needed to feed today's population of 5.3 billion, which is currently increasing at the rate of 88 million per year."*

*—Dr. Norman Borlaug, Nobel Laureate*

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4. As I mentioned above, achieving water quality improvements is a process that takes time to show results. We should take a reasoned, long-term approach to water quality improvement and avoid the temptation to make decisions based on historical snapshots.

An assessment from Dr. George Halberg, of the Iowa Department of Natural Resources who has spent a decade on the widely known Big Spring water quality improvement project in northeast Iowa sums up the situation.

*"We need time. Even if we could do it—implement all known BMP's today—we'd still be a decade away from proving changes in water quality. —Dr. George Halberg, Iowa Department of Natural Resources"*

5. There is an urgent need to consolidate efforts. One of the major problems facing farmers today is the multitude of duplicate programs. We have, as a base, the voluntary Agricultural Conservation Program (ACP) and general conservation technical assistance. For farmers who voluntarily wish to receive USDA program benefits there's the Food Security Act's mandatory conservation compliance, sodbuster and swampbuster programs. There is the voluntary Conservation Reserve Program, the Water Quality Incentive Program, the Clean Water Act Sec. 319 programs developed by many states, and the there are the regional Gulf of Mexico, Chesapeake Bay, Great Lakes and Great Plains programs. In addition, farmers in many of areas will soon be responding to the Coastal Zone Act Reauthorization Amendments as their state begins implementation. We've had the Rural Clean Water Program, the Hydrologic Unit Area Projects Demonstration Program and many others.

Each of these can have a positive impact on water quality, but it makes no sense for a landowner to have to deal with the paperwork for what could be eight or more separate programs. And this is just the short list. Many are conflicting and redundant, virtually none are coordinated.

Representative English has introduced legislation that would enable farmers establish to a single conservation plan for their farms and ranches. The concept makes sense but should be expanded to apply to programs from EPA and other agencies as well. We urge that this Committee look carefully at what is already required and find ways to combine and consolidate efforts.

With regard to specific suggestions regarding the Sec. 319 program, Farm Bureau and other farm and ranch organizations have developed the attached Statement of Principles. We have met with Committee staff and look forward to working with you on this matter. (See attachment #4.)

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In summary, we support the following concepts to address the issue of nonpoint source pollution:

- ✓ The central focus of NPS management solutions should be a reasonable and voluntary approach based on incentives, education, and site specific technical assistance. The nature of the problem differs substantially from that of point source pollution and hence requires different approaches. Best management plans and practices should allow maximum flexibility.
- ✓ NPS programs should retain the emphasis on State primacy and the development of locally designed, implemented and monitored best management practices.
- ✓ States should continue to have the authority to identify and resolve their priority water quality problems through administration of Sec. 319 funds.
- ✓ Management efforts funded by Sec. 319 money should be directed to priority watershed areas based on scientific assessments. Strategies should be developed on a watershed-wide basis.
- ✓ USDA and the Soil Conservation Service should have the primary role in developing plans and assisting landowners with implementation.
- ✓ Reauthorization of the Clean Water Act should include a strong financial commitment to further research, monitoring and assessment projects. More information is needed on the source, extent and impact of nonpoint source runoff, as well as the effectiveness, utility and economic feasibility of conservation practices.
- ✓ It is inappropriate for the Clean Water Act to extend citizens suit provisions to individuals participating in NPS management programs, nor is it appropriate to extend authority for citizen monitoring and oversight.

Our farmer and rancher members and other mainstream people realize that neither they, nor the nation, can afford the goals of zero pollution and zero risk when it comes to controlling soil erosion and agricultural runoff or any other human activity. However, they are willing to pursue excellence in conservation.

## WETLAND POLICY REFORM

### HISTORICAL PERSPECTIVE

For much of our history, wetlands have been viewed as a problem to be eliminated, rather than a resource to be managed and conserved. Wetlands were altered for purposes that provided many benefits to society, including flood control, protection of public health, agricultural production, road construction, government, education, and residential development.

Only recently has the emphasis shifted with a new focus on the unique and valuable functions of some wetlands in their natural state. This shift in public policy, and the view by some that wetlands are a "public" resource, does not always mesh with the fact that about 70 percent of wetlands are on private land, which individuals have purchased, mortgaged, and pay property taxes on. From an agricultural standpoint, one of the major shortcomings of the current wetland regulatory system is the failure to recognize and respect private property rights. Additional dry land and uplands have been swept into wetland categories by bureaucratic expansion.

A major part of the problem is that we have a wetlands program that grew not by design but by default, by bureaucratic expansion rather than congressional intent. In fact, the Clean Water Act does not even clearly and expressly direct the regulation of wetlands. Wetlands are not defined as "waters of the United States." Farmers and other natural resource users are now at the mercy of four federal agencies engaged in territory battles. Each has its own ideas about wetlands. None of them really cares what their decisions do to the livelihoods of landowners.

In less than 20 years, we have seen the Section 404 program go from regulating navigable waters, to regulating corn and soybean fields. Regulatory authority has expanded from restricting a few activities in the public waters of the United States, to federal planning and control without compensation. We have a regulatory policy that forsakes all other elements of ecosystems for wetlands. It rules blindly without weighing the importance of the wetland or the proposed project, the environmental value of the alternative site impacted, or for that matter, the cost to the property owners and the taxpayers. It is a policy that has required highway engineers to cut down, excavate and flood a mature maritime forest in Savannah, Georgia, in order to "compensate" for the minor wetlands lost during road-widening. It is a policy that for years has stifled local government officials in southeastern Virginia, where 80 percent of the land is hydric soils, from building a new drinking water reservoir for their residents. It is a policy that may cause a farmer to forfeit a third of his farm as "mitigation" because he could not afford the protracted legal costs of challenging the Corps of Engineers' allegation that his prior-converted cropland was still a wetland.

*"Outside of Alaska, the majority-65 million acres of the nations wetlands are owned by the private sector--individual farmers, ranchers, corporations, land trusts, and other private landowners."*  
—National Wetlands Policy Forum

*"The United States urgently needs a better system for protecting and managing its wetlands."* —The National Wetlands Policy Forum

Over the last several years, this Committee has had numerous hearings on wetland policy. Witnesses have included farmers, businessmen, bankers, local government officials, concerned citizens, realtors, transportation personnel, members of Congress and even former regulators at the U.S. Army Corps of Engineers. Their message contained a singularly

consistent refrain: Something is terribly wrong with wetland regulations. The regulators have overreached, the regulations have no design or coordination, and there is a lack balance and perspective with other policy goals. This concern is real and widespread.

This Committee must not let the opportunity pass to improve wetland policy, from both the standpoint of the resource and the landowners.

#### **WETLAND INVENTORY**

There has been much attention given to the loss of wetlands over the years and the importance of conserving wetlands. Central to this debate is the need to understand the current rate of conversion of wetlands, as well as where and why those conversions are occurring.

Recently, the U.S. Department of Agriculture updated its National Resource Inventory (NRI) which covers the years 1982-1991. It represents the most recent survey of our wetland inventory and offers the most up-to-date picture of the wetlands alteration. The inventory examined the conversion of wetlands on non-federal rural land in the United States, excluding Alaska.

The NRI shows that the total wetland losses between 1982 and 1991 have trended down to approximately 110 thousand acres annually on non-federal rural lands. This includes alterations from agriculture, development and other categories such as drought, change to open water and acquisition by the federal government. Keep in mind that there are no new large-scale farmland clearing projects currently under way. The last large scale farmland clearings occurred when government inflation policy ran commodity prices to very high levels.

Of particular importance is the clear downward trend of these alterations. The alterations attributed to agriculture are particularly worth noting. They have declined to an average of less than 30,000 acres per year. Furthermore, the inventory does not attempt to estimate the amount of wetland acres created or restored by farmers and ranchers which we believe is significant. Nor would this account for the millions of acres of cropland which has fallen out of production over the last decade.

We believe agriculture already is contributing to sizeable additions to our nation's inventory of wetlands. We strongly recommend that the federal government adopt a standard method for inventorying wetlands, conduct a national inventory, classify these wetlands on the basis of function and value, and require that all government agencies adhere to this single inventory. We also suggest that before any federal inventory of wetlands is conducted, the Congress should adopt a clear, consistent and common-sense definition of wetlands to minimize confusion.

#### **WETLAND DELINEATION MANUAL**

For years, Farm Bureau has argued that there must be a common-sense definition of wetlands. Wetland delineation has been a major part of the problem, in large part because currently, wetland delineation equals wetland jurisdiction. Hence, by expanding the scope of wetland delineation as was the case in the 1989 manual, jurisdiction was also

expanded—without any public review or input, or any attempt to gauge the added regulatory impact on landowners, small business, property values, bank portfolios or local governments.

The fact that the National Academy of Sciences (NAS) is currently reviewing the several of the scientific aspects of wetland delineation should not preclude this Committee from addressing the policy reforms that are needed. The fundamental question is not the lack of science, but how to apply the science we have in a rational manner.

There has been abundant science incorporated in the 1987, 1989 and the 1991 draft version of the wetland manual. The controversy stems from the inescapable fact that under current law, everything that is deemed to have any wetland characteristics is subject to regulation, regardless of its functional value. Once regulated, there is no provision in law to classify high or low value wet soils and apportion protection efforts accordingly. Consequently, the coastal marsh, bogs, swamps and the damp area in the center of a corn field are both subject to jurisdiction. Similarly, the lack of any appeals procedure, increased regulation of landclearing activities, and a strengthening of the Sec. 404(f) provisions regarding normal farming activities all need to be addressed.

These specific concerns, as well as the overriding issue of what land ought to be regulated, are all outside of the scope of the National Academy of Sciences study. Any resolution of these problems will only come from the Congress and originate within the Public Works Committee. Reform of Sec. 404 must be part of the reauthorization of the Clean Water Act in 1993.

#### **IMPACT ON AGRICULTURE**

Farmers and ranchers, like many other small businesses, have been significantly impacted by the current wetland regulatory program. Many farmers have unwittingly found themselves ensnared in a regulatory trap that unnecessarily delays and frustrates all attempts at good-faith compliance and is prohibitively costly to challenge over a protracted period of time. In farming or ranching, the agricultural value of the land rarely justifies the cost of regulatory burdens, which can run into hundreds of thousands of dollars and many years. As a result, win or lose, the viability of the farming or ranching operation is placed in jeopardy. Wetland regulations have the net effect of reducing the value of productive assets by restricting current economic uses and limiting future use opportunities. The incidents are frequent, and costly and underscore the need for major reform.

From the perspective of farmers and ranchers, most of the problem stems from an excessively broad federal definition that encompasses land exhibiting few if any true wetland characteristics. Attempts to regulate so-called "dry wetlands" as they are known to environmental advocates, has led to many landowners, government officials, small businessmen and others becoming embroiled in costly conflict.

Regulation of these lands has caused property values to fall and tax burdens to shift dramatically, limiting the ability to obtain critical financing for farming operations. Dry wetlands designations also have precluded farmers and ranchers from physically expanding many types of farming operations, causing inefficiency and reduced competitiveness. One farmer has had his property value reduce to zero since 1987.

Despite a clear statement of intent from Congress in Section 404(f) that normal and routine farming and ranching practices are not subject to individual permit requirements, the opposite is often the case. Regulators who are anxious to expand their control and power over private landowners frequently cite normal and routine farming practices as needing a Section 404 permit. Such activities could be as innocuous as extending a milking parlor into a dry pasture, cleaning overgrown fence and hedgerows, cleaning and maintaining drainage ditches, construction of farm and stock ponds, maintaining center-pivot irrigation systems, building rice levees and catfish ponds, maintenance of levees, or brush clearing.

These are just a few of the types of normal and routine farming activities that our members have reported being cited by federal regulators as requiring federal permits. These frequent attempts to circumvent and narrow the intent of Congress under Sec. 404(f) actions are not benign and can result in costly legal disputes. Often, landowners are given an "opportunity for settlement" that usually includes a severe financial penalty and forfeiture of some land as mitigation over the so-called violation. In short, the issue comes down to vague law, and unintelligible regulations that have eroded credibility of the 404 program among landowners who are law-abiding people.

Land often is the farmer's only tangible asset after a lifetime of work. It represents his retirement, children's education, source of credit and overall financial well-being. To deny a landowner reasonable and full use of his property is wrong.

Clearly, we can and should do better. The challenge is to construct a coherent, national policy that protects the rights of property owners. Good policy is policy that the average citizen understands what we as a self-governing people are trying to accomplish. Today, not one citizen can tell you what we are trying to do with wetlands policy. It simply makes no economic or political sense at all.

While we have attempted to briefly illustrate the impact of that program on farmers and ranchers, we offer the following suggestions for correcting the problem. Those most pertinent to agriculture include the following:

1. Wetland Definitions

The temporary return to the 1987 Wetland manual is an improvement over the 1989 manual, but it too contains some of the uncertainties that led to the original controversy. The conflict over wetland delineation stems from the lack of a clear public policy to apply good science. In that context we look forward to the product of the National Academy of Sciences, but we do not view the NAS study as a panacea. As members of the House of Representatives, you, not the NAS, must be the arbiter of that conflict, the source of the compromise. Eighteen more months of study will not resolve it.

2. Prior Converted Cropland

The Environmental Protection Agency and Corps of Engineers has promulgated rules to exclude prior converted cropland from the scope of Section 404. This was an important change and we commend the Corps for their action. Prior converted croplands are defined as lands brought into agricultural production before December 23, 1985 (enactment date of the

Swampbuster provisions of the 1985 Food Security Act). They are lands that have been physically altered such as ditched, tilled, leveled or drained for the purpose of food production. They no longer function as wetlands, nor as the Corps indicated in a regulatory guidance letter of September 26, 1990, do they "show important wetland values." The 1985 farm bill specifically excludes prior converted cropland, and we believe that a similar exclusion should be carried through in Section 404.

### 3. Normal Farming Practices

Section 404(f) of the Clean Water Act intended for farms, ranches and forestry operations to continue "normal" farming and ranching activities including, but not limited to plowing, seeding, cultivating, minor drainage, harvesting etc., without having to obtain individual permits. Despite that intent, many of the conflicts between farmers and regulators are due to attempts by field office regulators with no familiarity with agriculture to define what constitutes a normal farming practice.

In Louisiana, Arkansas and Missouri, for example, regulators attempted to restrict the construction of rice levees as practices that were not exempt under Section 404(f) and that a 404 permit would be required, along with the need for mitigation. It should be noted that this land is dry and has been in crop production and crop rotations for decades. To grow rice, the water had to be diverted onto the land. Nevertheless, it took the personal intervention of five U.S. Senators and several months of effort to convince the Corps of Engineers of its error. Imagine, all of those resources spent to prove that this one activity involving only one commodity in one part of the country was a routine one. You can begin to understand why an individual farmer feels totally helpless and intimidated by this process.

Similar problems have occurred over the construction of catfish ponds, haying and grazing high mountain meadows, maintenance of drainage ditches, and many other routine practices.

We believe the intent of Congress is clear that these activities are to be exempt from permit requirements. Because of the diversity of agriculture among commodities and regions of the country, Congress should restate and further clarify that intent.

### 4. Classification of Wetlands

Changes to Section 404 should include a system of classifying wetlands, recognizing that not all wetlands share the same ecological value or perform the same functions. Those that are truly unique may be deserving of greater protection, whereas those that are marginal or only technically meet wetlands criteria should be subject to less stringent oversight.

### 5. Private Property Rights

Central to the wetlands issue is the question of private property rights. More than 70 percent of wetlands are on private property. The 5th Amendment to our Constitution provides that private property may not be taken for public use without payment or just compensation. Historically, the landowner has borne the burden of protecting this resource, both in the form of direct cost, as well as restricted use of property. We suggest that there is a public obligation to help shoulder these costs, since the public at large is the beneficiary.

6. Exclusion of Man-Made Wetlands

Many wetlands are created, intentionally or unintentionally, as a result of man's activities. Wetland vegetation as a result of crop irrigation, saturation from broken drain tiles, flooding as a result of neglected stream maintenance, standing water from poorly designed public works projects, and the construction of farm and stock ponds are examples.

These artificially created wetlands should not fall under 404 jurisdiction because they are man-made and often unintentional. Landowners should be encouraged to create wetland areas and the prospect of regulatory entanglement is not an incentive to that objective.

7. Soil Conservation Service Role

The USDA Soil Conservation Service should have a consolidated role in delineating wetlands on agricultural land. Currently they are responsible for delineating and enforcing the Swampbuster program. We strongly recommend that authority for delineation of all wetlands on agricultural land be the sole responsibility of the Soil Conservation Service. It would provide much needed consistency greatly reduce the conflict.

8. Compatible Wetland Crops

Under certain circumstances, some types of agricultural production are entirely compatible with conserving wetland functions and values. Forestry, cranberry production, haying/grazing and some types of aquaculture are prime examples. Where such commodities can be produced in manner consistent with overall wetland functions, they should be encouraged and allowed to expand.

9. Establish Appeals Process/Consolidate Enforcement

Another serious problem with the 404 program is the lack of any appeals process. There must be an equitable, efficient and inexpensive means for average landowners to appeal a delineation or a decision without going to court. Similarly, the dual enforcement of Sec. 404 by the Corps of Engineers and the Environmental Protection Agency needs to be consolidated.

*“The National Wetlands Policy Forum strongly endorses the increased and coordinated use of compatible economic uses and other economic incentives to encourage landowners to manage, protect, restore and enhance the wetlands resources that they own.”*  
—The National Wetlands Policy Forum

We believe that the suggestions contained above will greatly improve the wetland regulatory program and reduce many of the inequities and difficulties faced by landowners and small businessmen. Many of these concepts are embodied in legislation currently introduced in the House of Representatives, H.R. 1330. We urge your support of this legislation.

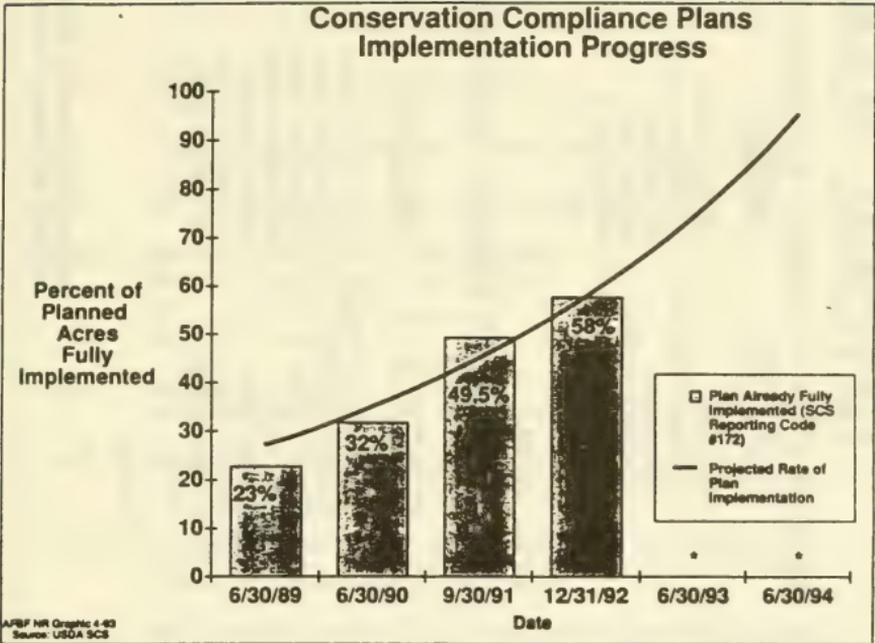
### Clean Water Act Funding Is Essential

The success of the efforts to address point source pollution is largely a result of the right tools coupled with the necessary resources to make it succeed. It is estimated that the total amount spent by the public and private sector to reduce point source pollution has cost more than \$160 billion over the last 20 years.

In our opinion, a similar and sustained commitment needs to be made if nonpoint source pollution is the priority that the Congress and the EPA say it is. While the diffuse nature of the problem requires a different policy approach, a commitment of financial resources and time are critical. Success will not occur without, in the case of agriculture, a cooperative approach that emphasizes technical assistance, grants and cost-sharing to the farm gate. It is a site-specific problem that requires site-specific solutions. All of the program building notwithstanding, nothing is gained in the form of improved water quality until something occurs on the ground. In some instances best management practices are simply too costly and represent an economic impediment to the landowner. Many small communities and small businesses faced the same kind of economic dilemma in coping with the point source requirements. As such, it will necessitate the same effort at developing **creative and cooperative** solutions.

One approach that we would strongly disagree with is a proposed tax on agricultural inputs. There is tremendous cost pressure on agriculture already to reduce the use and maximize the efficiency of agricultural production inputs. Little added benefit would be added by a so-called "green tax" on pesticides and nutrients. Conversely, the agricultural community is already financially strapped and it makes little sense to place further economic burdens on them that would further impede their ability to implement conservation practices.

We would encourage and assist any constructive and cooperative efforts to resolve the question of financing nonpoint source programs. The concept of extending the revolving loan fund or a version thereof, grants to local units of government, direct grants and/or cost-sharing, conservation credits on property or income taxes and market based approaches such as the trading concept all need to be thoroughly examined and considered. We look forward to working with you in this effort.



# NATIONAL SUMMARY

## MAJOR FSA PLANNED ENGINEERING PRACTICES

<u>PRACTICE</u>	<u>AMOUNT</u>	<u>STAFF YEARS</u>
Terraces	216,000 miles	3124
Grassed Waterway	1.3 million acres	2684
Structures	45,751 (No.)	592
Sediment Basins	90,724 (No.)	515
Diversions	4750 miles	308
Other	-----	2095
		----
<b>TOTAL</b>		<b>9318</b>

## MAJOR FSA PLANNED AGRONOMIC PRACTICES

<u>PRACTICE</u>	<u>AMOUNT</u>	<u>STAFF YEARS</u>
Conservation Tillage	45.5 million acres	1884
Cropping System	85.2 million acres	1774
Crop Residue	55.0 million acres	1602
Contouring	25.8 million acres	1039
Critical Area	552,000 acres	543
Field Strips	2.0 million acres	504
Contour Strips	3.3 million acres	310
Other	-----	1456
		----
<b>TOTAL</b>		<b>9112</b>
		----
	<b>TOTAL Engineering Practices</b>	<b>9318</b>
	<b>TOTAL Agronomic Practices</b>	<b>9112</b>
		<b>18430</b>
	<b>TOTAL</b>	<b>18430</b>

## **AFBF's ENVIRONMENTAL EDUCATIONAL PROGRAMS**

- 1983 Conservation Tillage Action Plan**
- 1984 Farm Partners: Have You Hugged Your Soil Lately?**  
Includes Leader's Guide, 10 page workbook, & slide/tape show for a 1/2-day workshop on soil compaction, and residue cover.
- 1987 Water Quality Self-Help Checklist**  
Now in its 7th edition with over 900,000 copies printed.
- 1988 Farmer Idea Exchange**  
20 top ideas showcased every year at annual meeting, many relate to soil conservation, and more efficient use of fertilizer and crop protection chemicals.
- 1989 LISA Tours in IL, IN and OH-** (led by state Farm Bureaus.)
- 1989 Cooperative Well Water Testing Program**  
23 state FB's involved, over 40,000 wells tested, video tape available describing program.
- 1990 Cooperative Conservation Tillage Transect Survey** for use by county Farm Bureaus
- 1990 WQ- FB's Computerized Water Quality Self-Help Checklist**
- 1990 FB's Professional Self-Help Education Series**  
Part I Agricultural Technology- 25 page booklet.  
Part II Chemical Use- 29 page booklet.  
Part III IPM- 33 page booklet.
- 1991 Crop Residue Placemats**  
2800 camera ready slicks distributed to state FBs-(one for each county FB.)
- 1991 Pesticide Recordkeeping Booklet**  
ND, NB & KS Developed their own- AFBF distributed another 4,000 copies as a test.
- 1992 Innovation and Technology Transfer: What County Farm Bureaus Can Do**  
Distributed 600 copies of this 80-page booklet outlining innovative conservation equipment, county programs and state laws to encourage its use, and public education programs that county FBs could use.
- 1992 RCWP Lessons Learned, Nonpoint Source Water Quality Project Checklist.**  
Distributed over 2,000 copies of this 6-page white paper and checklist to key federal, state, and local water quality officials and legislators. The paper was cosigned by AFBF, all state Farm Bureaus and 27 other major agriculturally related organizations.

For Further Information Contact: American Farm Bureau Federation  
Natural Resources Division  
225 Touhy Ave., Park Ridge, IL 60068.

**PRINCIPLES STATEMENT OF THE CLEAN WATER ACT WORKING GROUP**

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American Farm Bureau Federation  
American Feed Industry Association  
American Forest and Paper Association  
American Nurserymen  
American Sheep Industry Association  
American Soybean Association  
The Fertilizer Institute  
National Agricultural Chemicals Association  
National Association of Conservation Districts  
National Association of State Departments of Agriculture  
National Association of Wheat Growers  
National Broiler Council  
National Cattlemen's Association  
National Corn Growers Association  
National Cotton Council  
National Council of Farmer Cooperatives  
National Farmers Union  
National Milk Producers Federation  
National Pork Producers Council  
National Turkey Federation  
National Water Resources Association  
U.S. Rice Producers

CLEAN WATER ACT REAUTHORIZATION: NONPOINT SOURCE PROVISIONS

In the reauthorization of the Clean Water Act, Congress should adhere to the following principles:

1. The Clean Water Act (CWA) does not stand alone in protecting America's waters from nonpoint source (NPS) pollution. Other ongoing programs at the federal, state and local level must be funded fully, coordinated with and not superceded by the CWA. This includes, in particular, the soil conservation and water quality provisions of the 1985 and 1990 farm acts and the state groundwater and surface water protection programs of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).
2. Recognizing the 20-year commitment our country has had to eliminating point-source pollution, success in reducing the more complex and diverse NPS pollution will require similar time and resource commitments. However, management of this problem will require a different approach than that of point source pollution elimination because, unlike point source pollution, NPS pollution is primarily a weather-related phenomenon that can be managed, but not feasibly eliminated. NPS pollution is caused by the inadvertent discharge of pollutants from a wide variety of society's most essential activities.
3. The central focus of NPS management solutions should be a reasonable and voluntary approach based on incentives, education and technical assistance as the primary means of managing NPS pollution.
  - NPS pollution management programs should (a) emphasize the protection of water resources and state-designated water uses, including state-designated agricultural uses, and (b) recognize the importance and needs of individual agricultural producers and other landowners affected by the CWA.
  - This approach emphasizes the use of locally designed and applied, economically feasible, site-specific best management practices which do not infringe on private property rights. Implementation of these farm management options over a realistic time frame will further the goal of reaching or maintaining designated uses of water bodies.
  - It is inappropriate to link USDA commodity, conservation or disaster program payments to the success or failure of management programs for NPS pollution authorized under the CWA.

4. Current CWA language contains valuable provisions for NPS management embodied in Section 319. Although this NPS section has been historically underfunded and has been hampered by bureaucratic roadblocks, all states now have approved Section 319 assessments and approved management programs. Within the CWA, it is the preferable vehicle for management of NPS pollution, and changes which occur during CWA reauthorization should reinforce these existing NPS provisions.
  - The proper management of NPS pollution lies in state and local efforts. As such, states should continue to identify and resolve their priority NPS water problems through administration of Section 319 funds. With state oversight and approval, local organizations should continue to carry out these NPS programs. Agencies at the federal and state levels should harmonize objectives and coordinate funding for national and regional NPS management programs.
  - State and local programs should provide for a mix of research, development, education and technical and financial assistance for both planning and implementing actions aimed at achieving state designated uses.
5. Management efforts funded by Section 319 of the CWA should be directed to priority areas based on scientific assessments that identify water bodies with impaired or threatened uses.
  - Priority, as determined by states, should be based on the magnitude of risk to human health, the protection of designated uses, and likelihood of further significant and unreasonable water quality degradation if no action is taken.
  - Strategies should be developed on a hydrologic unit, watershed-wide basis using an approach that includes the consideration of both surface and ground water quality.
  - Programs should focus on cost-effective, site-specific practices for individual operations with flexibility for implementation.
  - In order for Section 319 to work effectively for agriculture, USDA must play a lead role in the delivery of education and technical assistance at the state and local level.

6. An effective and cost-efficient response to water quality problems requires accurate and reliable information on (a) the source, extent, and impact of NPS pollution, as well as (b) the effectiveness, utility and economic feasibility of conservation measures and best management practices.
  - Any Clean Water Act reauthorization should include a strong financial commitment to further research, monitoring and assessment projects.
  - Monitoring should include before and after sampling as well as frequent sampling during storm events and assessment of natural and historic loadings.
  - Scientific research and monitoring projects should follow protocols developed by the U.S. Geological Service and should be conducted on a watershed basis with local and state input.
  - Representative pilot projects aimed at achieving market based incentives on a watershed or regional level should be encouraged.
7. The Clean Water Act Reauthorization should not directly or indirectly create a federal water quality law or program which supersedes, abrogates or impairs state water allocation systems and water rights.
8. Section 319 management programs on federal lands should be developed and implemented by the specific agency statutorily charged with management of the lands in question, rather than by regulatory authorities independent of that agency.
9. It is inappropriate for a reauthorization of the Clean Water Act to provide the authority for citizens suits against individuals participating in NPS management programs.



**AMERICAN FARM BUREAU FEDERATION**

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April 30, 1993

The Honorable Douglas Applegate  
Chairman  
House Public Works and Transportation  
Subcommittee on Water Resources and Environment  
B-370A Rayburn House Office Building  
Washington, D.C. 20515

Dear Chairman Applegate:

Enclosed are the American Farm Bureau Federation's comments regarding the Clean Water Act Reauthorization. Please include them as a supplement to the written statement presented at the April 22, 1993, hearing and a part of the hearing record.

We appreciate your consideration of our views.

Sincerely,

Richard W. Newpher  
Executive Director  
Washington Office

RWN/lh  
Enclosure  
cc: Subcommittee Members

SUPPLEMENT TO WRITTEN TESTIMONY OF THE  
AMERICAN FARM BUREAU FEDERATION  
TO THE HOUSE PUBLIC WORKS AND TRANSPORTATION SUBCOMMITTEE  
ON WATER RESOURCES AND ENVIRONMENT  
REGARDING CLEAN WATER ACT REAUTHORIZATION

April 30, 1993

The House Public Works and Transportation Subcommittee held hearings on April 22, 1993, and solicited testimony from the agricultural and environmental communities concerning reauthorization of the Clean Water Act. The following supplements matters raised in Farm Bureau's testimony and addresses issues raised in questions from the committee.

**PROPERTY RIGHTS IMPLICATIONS OF THE CLEAN WATER ACT**

The Clean Water Act was designed for the laudable public purpose of controlling pollution of streams, rivers and coastal waterways. Along the way, however, regulators have turned it into a vehicle for imposition of restrictions on the use of private property that are so significant that they often diminish the land's value. Regulators offer no compensation to the landowner for these takings. Instead, the landowner is put to the trouble and expense of pursuing a legal action if he is to recoup his losses. The Act and its regulatory framework have become a prime example of confiscatory government action that the Takings Clause of the Fifth Amendment was designed to prevent: regulations that "force some people alone to bear public burdens which, in all fairness and justice, should be borne by the public as a whole." Armstrong vs. United States, 364 U.S. 40, 49 (1960).

The chief culprit in depriving landowners of the full economic use of their land without payment of compensation is the over-complex -- indeed, for the ordinary farmer, impenetrable -- array of wetlands regulations. Through their control of "wetlands," a term nowhere defined in the enabling statute, the Environmental Protection Agency and the Army Corps of Engineers impose an undue regulatory burden on how farmers and other property owners may use their land. All too often these restrictions have the effect of preventing valuable uses -- and sometimes the only valuable use -- of the property.

These regulatory takings deplete the economic base of our nation's economy, complicate the lives and even destroy the livelihoods of farm owners and operators, and too often result in long-drawn, wholly unproductive, and expensive litigation over whether government must compensate the landowner. When the landowner succeeds in a takings claim, the direct compensation costs to government (and taxpayers) can be substantial: \$2.5 million, for example, for the confiscatory wetlands regulation in the Loveladies Harbor case. The \$100 million plus awarded against the government in the Whitney Benefits case arose under a different statutory scheme, but could as easily have resulted from the excessive zeal of EPA or the Corps of Engineers in interpreting the Clean Water Act.

The Clean Water Act, especially § 404 (33 U.S.C. § 1344), incorporates broad standards that have defied clear delineation and interpretation. The statute fails to define jurisdictional "wetlands" in the first instance, and fails to distinguish what kinds of wetlands are truly crucial to the statutory scheme. As a result, the statute fails to provide the necessary guidance to the accompanying regulatory regime. The breadth of the regulations issued pursuant to the Clean Water Act demonstrates the statute's imprecision. Because this imprecision costs the government a significant amount of money (in constitutionally-required compensation for takings, litigation costs, loss of production, and depletion of the tax base, for example) -- and because it infringes centrally important constitutional rights that government is supposed to protect -- Congress should not permit this unwieldy and cumbersome regime to continue unchecked. It must strike a more precisely defined, more economically sane, and fairer balance between the environmental interests we all share and the property rights of landowners, including the farmers who produce our food.

Farm Bureau supports efforts by Congress to reform wetlands regulations and the permitting process. Two necessary parts of any reform package would be a comprehensive definition of jurisdictional wetlands and the distinction based on the importance of particular kinds of wetlands to the national environment.

#### **SITE-SPECIFIC RESEARCH CONCERNING NONPOINT SOURCE POLLUTION**

It is important that scientific evidence be gathered concerning the existence of nonpoint source pollution. Such scientific inquiries are currently in progress and include the Beaver Creek Watershed Project and the Lower Salinas River Basin Project.

##### **Beaver Creek Watershed Project**

The Beaver Creek Watershed Hydrologic Unit Area in Western Tennessee is a research project initiated by farmers in the watershed to scientifically assess the impact of agricultural practices on runoff (surface) and underground water. The U.S. Geological Survey is the lead research agency. Several other federal, state and local government agencies are supporting this research project.

One of the principal contributions of this research project has been to establish a scientific sampling methodology to measure potential pollutants in relationship to runoff water volume during actual storm events.

Runoff water sampling methodology prior to the Beaver Creek project was nothing more than one or two "grab" samples per hour during storm events. This sampling process produced errors of 100 to 500 percent. USGS researchers use continuous flow hydrographs and water samples collected at intervals of five minutes or less.

The Beaver Creek watershed is an intensively farmed agricultural region. Principal crops are cotton, corn, soybeans and wheat. Cattle are also produced in the watershed. The soil type is unstable unless properly managed.

Unpublished research data from the project, which is in its third year, are favorable to agriculture. The research has not found increased levels of phosphorous in either ground or surface water supplies. Nitrogen found in surface water is not directly related to fertilizer application. It is in organic form--leaves, stalks and crop residues.

Pesticides found in surface water appear to be directly attributable to time of application and occurrence of a storm event. After storms, pesticide levels found are well below EPA limits. Managing pesticide applications to avoid storm events has led to no pesticide loadings in the stream.

Soil erosion from stream banks and stream bottoms has emerged as a contributor to sediment loadings. This finding is contrasted with the conventional view that soil erosion from farmed fields is the source of sediment buildup.

Finally, a most important dimension of the Beaver Creek project is the measurement of the actual effectiveness of Best Management Practices (BMPs) which farmers are being urged to adopt. The fact of the matter is that researchers do not know whether BMPs will do anything to resolve nonpoint source contamination problems.

Beaver Creek should lay to rest once and for all the popular allegation that agricultural operations are the largest contributors to water quality degradation. Without a sound scientific basis, water quality problems will not be accurately identified. Mandated changes in farming practices to correct undocumented and unproven site-specific nonpoint source contamination problems will raise farm costs and force farmers out of business.

#### Lower Salinas River Basin Initiative Pilot Project

The Association of Monterey Bay Area Governments (California), through a grant from the U.S. EPA, contracted with Kleinfelder to perform the Lower Salinas River Near Coastal Waters Initiative Pilot Project. Kleinfelder performed the project by completing the following tasks:

- 1) Assess off-site movement of pesticides in a production agriculture setting,
- 2) Recommend, implement, and test economically and technically feasible Best Management Practices (BMPs) to mitigate off-site pesticide movement. The use of appropriate BMPs was promoted as a method to reduce off-site migration of pesticides, and
- 3) Assess off-site movement of pesticides after BMP implementation.

Kleinfelder prepared a Quality Assurance Project Plan and a revised work plan that established a two-year field study on two separate 30-acre blocks adjacent to each other in the Blanco District of Salinas, California. Beginning in March 1990, the study sampled for pesticides

commonly used on the fields and included some that were not used but have historical significance such as the organochlorine pesticides DDT and Dieldrin. (The use of DDT and Dieldrin is no longer allowed.) These projects have demonstrated that the role agriculture plays in nonpoint source pollution is much less than has been previously argued by the EPA.

Sampling included primarily subsurface drain water, but also assessed surface water runoff, surface soil, and Blanco Ditch water and sediment. Approximately 115 samples were analyzed for organochlorine, organophosphate, and carbamate pesticides. As expected however, isolated subsurface drain and surface water runoff samples contained Dieldrin, DDT, DDD, and DDE in the part per billion range. But, concentrations of pesticides currently used in production were below laboratory reporting limits in subsurface and surface water runoff samples collected during the study period.

When this particular study was first commissioned, the EPA and many environmental groups saw an opportunity to decisively implicate agriculture for run-off of agricultural chemicals. Through this project, local agricultural interests have demonstrated their concern to know, correct and/or minimize any and all environmental impacts which may occur due to farming.

Both the Beaver Creek Project and the Lower Salinas River Basin Project illustrate two important points: (1) farmers are willing to find the truth with regard to the impact of their farm practices on water quality and (2) there is a pressing need for scientific evidence to measure the actual impact of farm practices on water quality. Both of these points argue for calm, not panic, with regard to dealing with agricultural nonpoint source problems.

In support of the foregoing discussion, particularly with reference to the Beaver Creek Project, please see the attached letter of April 14, 1993, to Dean R. Kleckner, AFBF President, from Messrs. Jerry Lee, Mike Countess, John Wilson, Angel Roman-Mas and Stephen Klaine of the U.S. Department of the Interior, Geological Survey, Nashville, Tennessee. Also, please reference your files for a letter dated April 7, 1993, from Mr. Kleckner to Chairman Applegate and Subcommittee members wherein Farm Bureau states its support for increased funding of USGS efforts to scientifically assess water quality.

#### SITE SPECIFIC ASSISTANCE TO FARMERS

In Farm Bureau's April 22 statement before the House Public Works Committee we stated that the Soil Conservation Service should have a primary role in nonpoint source water management. AFBF would like to emphasize that we also support a role by the Extension Service for educational support and a role in cost-sharing practices by the ASCS.

**EPA WATER QUALITY CONFERENCE**

We also submit for the hearing record a paper presented by AFBF Chief Economist John Hosemann at the October 1992 EPA water quality conference. The paper discusses the principal economic issues farmers will face in the upcoming rewrite of the Clean Water Act.

**REBUTTAL TO THE STATEMENT OF MR. ADLER, NATURAL RESOURCES DEFENSE COUNCIL**

Mr. Robert Adler's recent testimony (April 22) on the reauthorization of the Clean Water Act, contained a serious error that inaccurately portrays the conditions of our nation's rivers, lakes and estuaries.

The error is in Item #1, second paragraph of his summary statement. It states "At least a third of our rivers, half of our estuaries and more than half of our lakes are not meeting designated uses, that is not safe for swimming, fishing and other uses."

The 1990 EPA Report to Congress absolutely does not say that. It says, rather, that "one-third of the assessed stream miles do not meet designated uses." (emphasis added).

This is a frequently misstated and misinterpreted point. In fact, only about 36 percent of our nation's stream miles have been assessed, (however inadequately). Even EPA, when asked, will admit that the 36 percent figure is not representative of total U.S. stream and river miles, but rather of assessed miles. Similar clarification needs to be made when talking about lakes and estuaries as well.

From an agricultural viewpoint clarification is very important, since agriculture is frequently cited as a major contributor to nonpoint source runoff. The difference is important to this debate and the manner in which the Committee responds with policy. It is a question of actual impairment of total assessed stream miles, one-third of 647 thousand miles, rather than one-third of total miles (@2 million miles) as Mr. Adler said.

It is important to agriculture, to public understanding and to good policy making that accurate and realistic information be used. This kind of data and problems with interpretation underscore our previous points about the need for accurate monitoring and data collection.

FILED AS EXHIBIT WITH FARM BUREAU SUPPLEMENTAL TESTIMONY TO  
CLEAN WATER ACT REAUTHORIZATION SUBCOMMITTEE HEARINGS 4/22/93



United States Department of the Interior

GEOLOGICAL SURVEY  
810 Broadway Suite 500  
Nashville Tennessee  
37203



April 14, 1993

Dean Kleckner  
President  
American Farm Bureau Federation  
225 Touhy Ave.  
Park Ridge, Illinois 60068

Dear Mr. Kleckner:

Following are the views and thoughts of representatives of the USGS, SCS, Tennessee Department of Agriculture and other participating groups in the Beaver Creek Watershed Hydrologic Unit Area Project on the issues of assessing nonpoint source (NPS) pollution associated with agricultural activities and implementing best management practices (BMPs).

The Clean Water Act of 1987 contains directives for the correction of NPS pollution problems. State and Federal agencies as well as the farming community have recognized the importance of identifying and correcting nonpoint pollution problems associated with agricultural activities. Paramount to the reduction of agricultural NPS pollution is the successful implementation of conservation systems also known as BMPs.

The efficiency of BMPs in reducing agricultural NPS pollution has been extensively documented in experimental fields. However, their overall effectiveness in protecting and improving water quality has yet to be fully assessed on production fields or at the watershed level. Furthermore, the success of BMPs has been compromised by the absence of scientific information to support the BMPs selection process. If successful control of agricultural NPS pollution through the implementation of BMPs is expected, current and future research should be geared toward:

- (1) improving our ability to determine the nature and extent to which agricultural activities impact water quality and threaten environmental integrity;
- (2) improving our ability to differentiate agricultural NPS pollution from other forms of pollution and from natural conditions;

- (3) developing and evaluating monitoring and sampling strategies;
- (4) understanding better the processes and factors that control the fate and transport of agricultural pollutants;
- (5) assessing validity of current standard setting criteria, i.e. total maximum daily loads, biological communities, maximum contamination levels; and
- (6) calibrating and validating model, i.e. HSPF, AGNPS, GLEAMS.

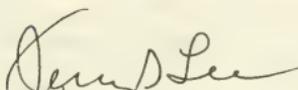
Current agricultural programs addressing water quality are conducted through farmers' voluntary participation. State, Federal, and local agencies provide technical, financial, and educational assistance to farmers for the implementation of BMPs. Most of these programs do not provide adequate funding for research and monitoring activities. The BMPs selection process in these agricultural water-quality programs is biased by: (1) data availability, (2) approaches to the data collection, and (3) uncertainties in the conclusions derived from available data sets.

Most of the current water-quality monitoring programs addressing agricultural NPS pollution have adopted an occurrence and distribution approach. Data generated using this approach is of limited value in the assessment of agricultural NPS pollution, the BMPs selection processes, and the calibration of mathematical models. Furthermore, the accuracy with which these data sets characterize the temporal and spatial variabilities in the concentration of selected pollutants is questionable. Typically no provisions for uniformity in the collection of chemical and physical data are made. The inconsistency in the data collection protocols limits the opportunity to compare and contrast the data sets and results within and across regions. Uncertainties in the conclusions derived from available data sets, (e.g. errors in load calculations), must be addressed before encouraging landowners to adopt specific BMPs. Other monitoring programs have relied on the use of biological indicators. The application of the same criterion without considering regional variabilities, site specific conditions, and data from control sites limits the applicability of bioassessments.

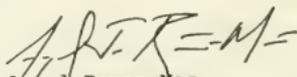
The development of scientific information required for a thorough and accurate assessment of agricultural NPS pollution and for the sound implementation of BMPs is difficult and expensive. Intergovernmental teams are needed. The participation of the farming community and environmental groups is essential as well. Multiagency participation is necessary in the development of the needed information to guarantee a broad scope in assessing and solving agricultural NPS problems. In addition, the multiagency approach helps to overcome the financial burdens associated with developing the needed scientific information.

The use of a holistic/deterministic approach guarantees the systematic collection of the needed data for a more complete and accurate assessment of agricultural NPS pollution and more sound implementation of BMPs. This approach is being successfully implemented in the Beaver Creek Watershed Hydrologic Unit area Project in West Tennessee. The systematic replication of this study elsewhere would result in the development of the data needed for the development, calibration and validation of mathematical models with effective transferable values which could be used for planning purposes.

Sincerely,



Jerry Lee  
State Conservationist  
USDA-SCS,  
Nashville, Tennessee

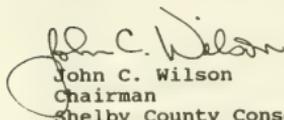


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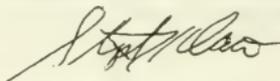


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**ECONOMIC ISSUES FOR FARMERS IN THE  
REWRITE OF THE CLEAN WATER ACT**



**Paper presented by John K. Hosemann, AFBF Chief Economist, at the "Clean Water and the American Economy" Conference sponsored by EPA and Resources For the Future in Arlington, Virginia, October 19-21, 1992.**

**"Taking action without knowledge is like throwing darts with a blindfold." Meiners/Yandle**

### Introduction

Sorting out the economic issues to be dealt with in the rewrite of the Clean Water Act is a humbling experience. The approach in this paper is to focus on some fundamental economic issues. Should the fundamental economic issues get swept aside, there are obviously still many serious issues with which farmers must struggle.

Partial review of technical research and earlier economic papers reveal certain point source pollution issues pertinent to nonpoint source pollution. Technology-based, command-control, "zero-based" policy and regulatory approaches have not worked effectively or efficiently for point source pollution problems. These approaches are not likely to work for nonpoint source problems either. It is time to abandon the status-quo and move on to bolder, more creative solutions that put water quality improvement as the central policy focus rather than federal micro-management of farm inputs and resource uses.

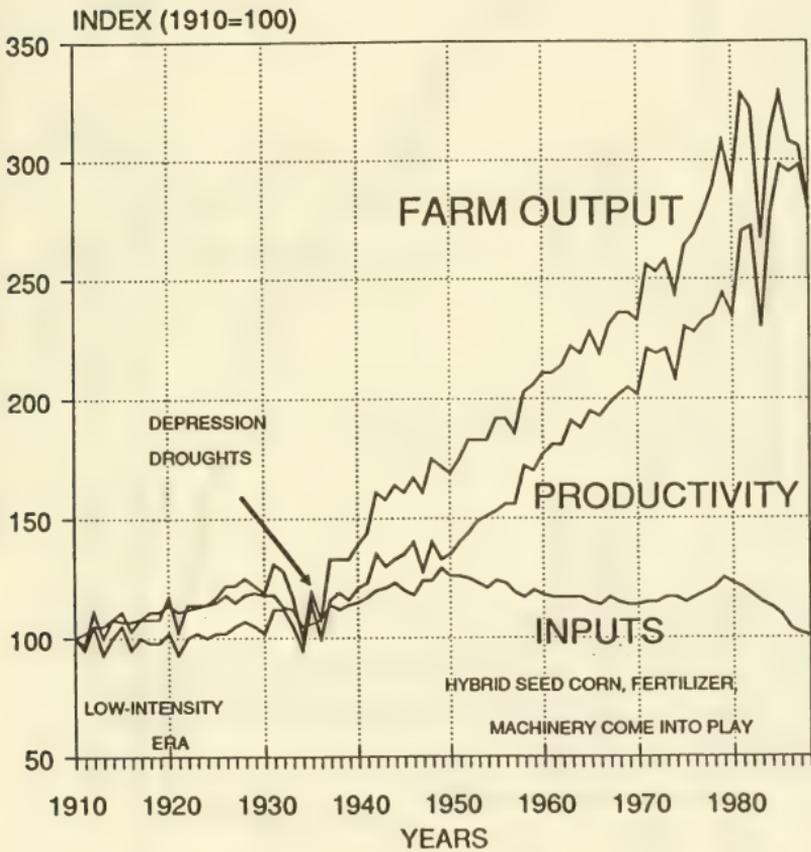
A new approach based on water quality outcome standards requires some recognition of the basic economic relationships that have made U.S. agriculture what it is today, a science driven and highly efficient industry facing the challenges of a competitive world marketplace. If policymakers insist on applying the discredited command-control, technology-based regulatory controls to the farm sector they should understand that there will be substantial economic implications and the weakening of one of the last world-class industries in the United States.

One reason for including figures 1,2 and 3 is to point out that had U.S. farm technology been frozen at the 1910 level, the U.S. would have to cultivate 1.222 billion acres to produce the output that U.S. farmers currently produce on 300-400 million acres. Technology and innovation is pro-environment. It has released vast land and water resources for other activities. Goklany and Sprague<sup>1</sup> discussed this point in detail.

Another reason for including these productivity perspectives upfront is to remind ourselves what this policy debate is all about -- raising farm costs and lowering these positive trends.

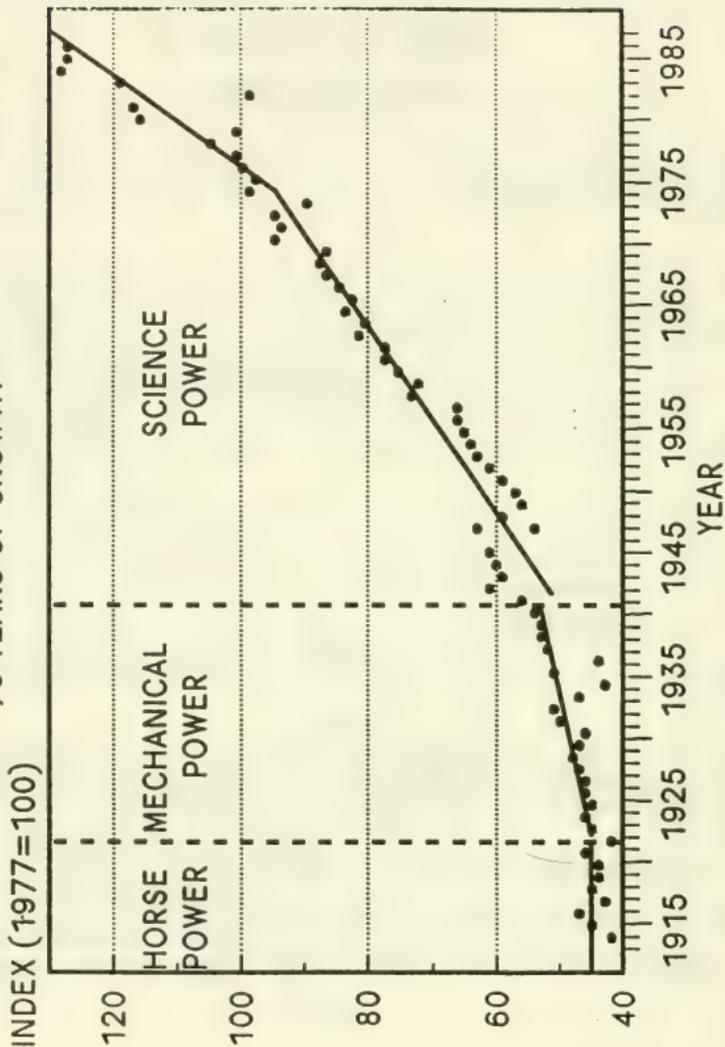
FIGURE 1

## OUTPUT and PRODUCTIVITY RISE STEADILY; INPUTS FALL



Source: USDA

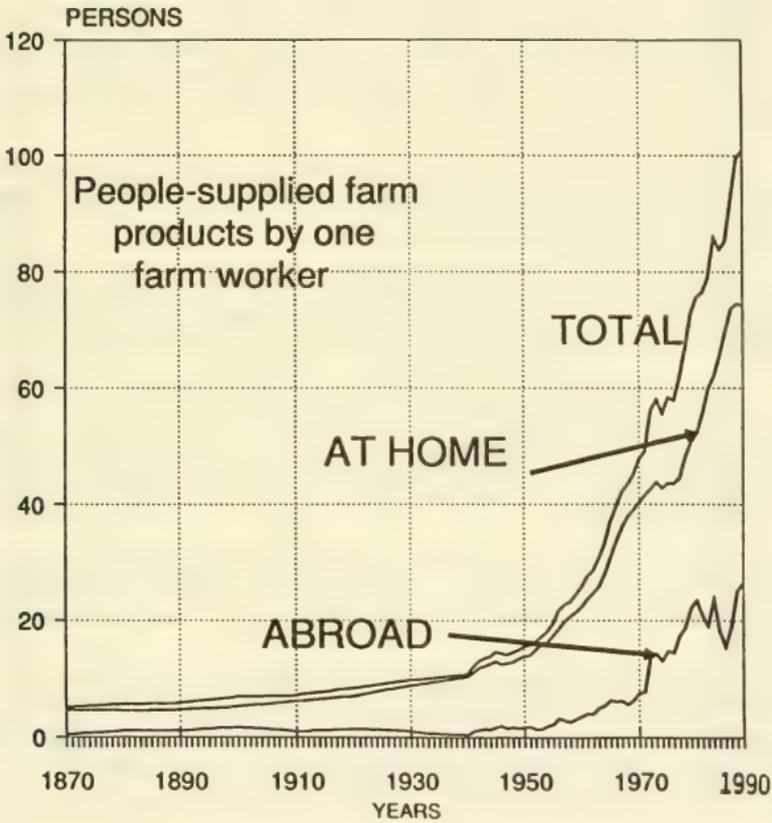
FIGURE 2  
U. S. AGRICULTURAL PRODUCTIVITY  
75 YEARS OF GROWTH



SOURCE: Nat'l Council of Farmer Cooperatives

FIGURE 3

PEOPLE FED BY  
ONE U.S. FARM WORKER  
1870 TO 1988



Source: USDA

Long-standing increases in U.S. farm productivity are based on a massive investment in scientific discovery, trial and error on and off farms, with both private and public research and development. In addition, over the last 100 years billions of dollars of private and public money have gone into technology transfer that positions U.S. agriculture as the world-class competitor it is today.

Finally, the central point here is that farmers simply do not have a similar scientific basis on which to make business judgments and decisions about what they are/are not contributing to nonpoint source contamination. We simply do not know, in site-specific farm-level terms, the linkages between modern farm practices and water quality. This detail data is absolutely essential in order to evolve the policy options--and ultimately the common law legal remedies--which can improve water quality where serious problems do exist.

It is simply not good enough to make sweeping allegations and generalizations about the possible links between modern U.S. farm practices and water quality without scientific proof of cause and effect at the site-specific farm level.

In simple terms, an individual farmer has the scientific data and know-how to produce 75 bushels per acre wheat on his land and similar land. What he/she now needs is access to the scientific data and know-how to produce 75 bushel/acre wheat and a specified quality of runoff and groundwater from that same acre of wheat.

Figure 4 depicts the principal challenge which U.S. farmers will face in the decades ahead. By the year 2000, world population will increase by 1 billion people. In 50 years, world population is expected to double from 5.5 to 11.0 billion people. New technology will no doubt play a major role in meeting this fundamental challenge. But so will land and water resources in the United States.

Figure 5 illustrates the 1975-1990 trends in world grain production and utilization. If world grain consumption increases only by population growth at 1.4 percent per year, by the year 2000 the world will need 16 percent more grain. How will this be done?

Figure 6 illustrates the 1975-1990 trends in world grain acreage and world grain yields. World grain acreage increased between 1975-1982 and declined steadily thereafter. In fact, the longer term trend shows a steady decline in world grain acreage. World grain yields, on the other hand, with a few exceptions have trended steadily upward over the 1975-1990 period. Yield increases have offset the decline in the grain production area.

# WORLD POPULATION GROWTH

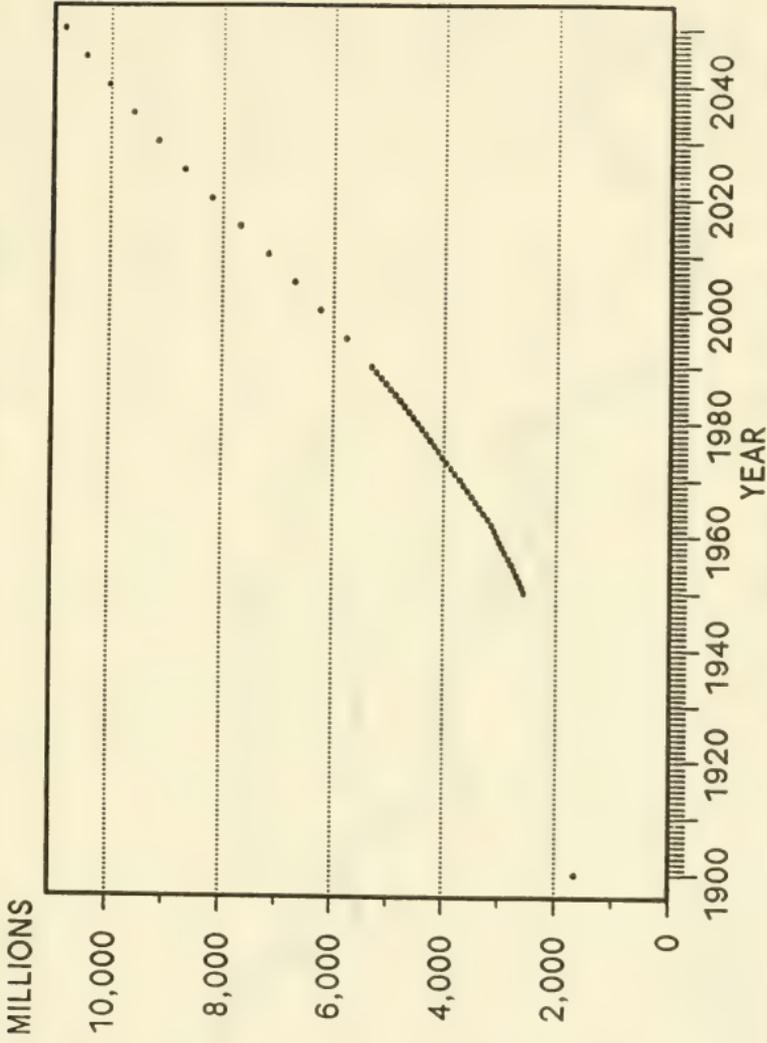


FIGURE 4

SOURCE: Nat'l Council of Farmer Cooperatives

FIGURE 5

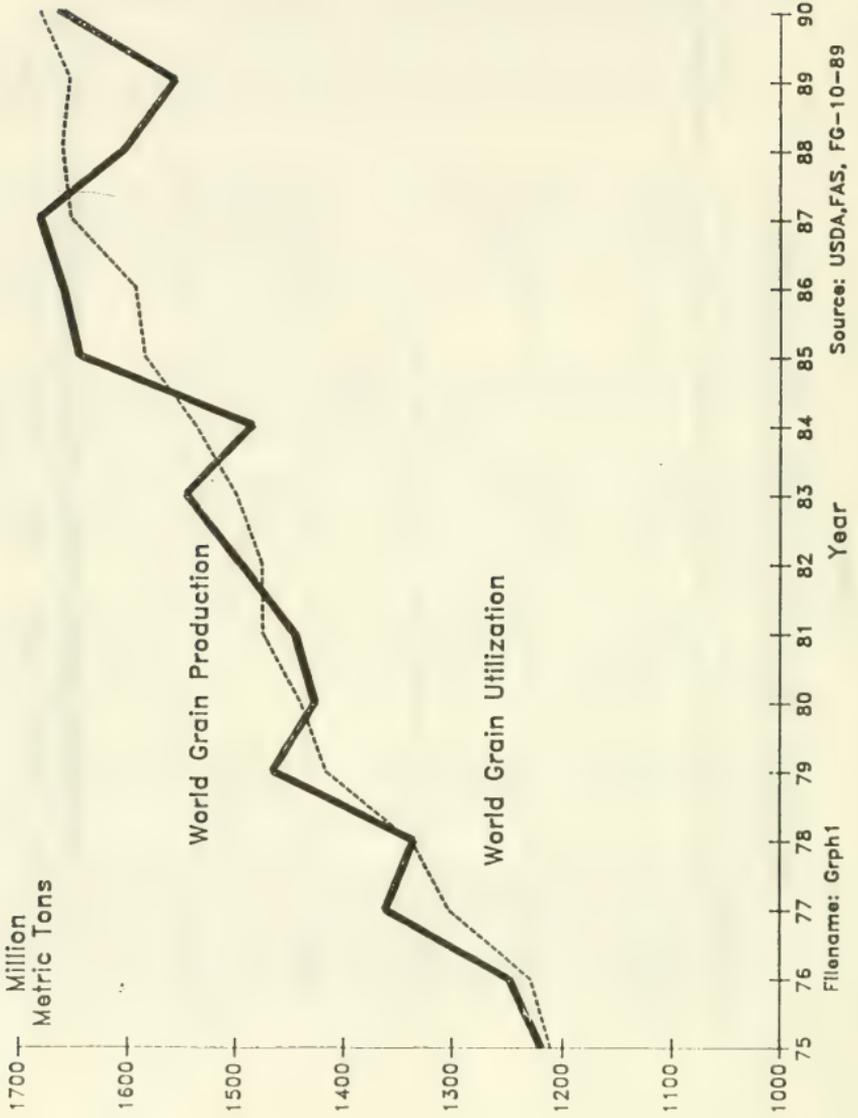
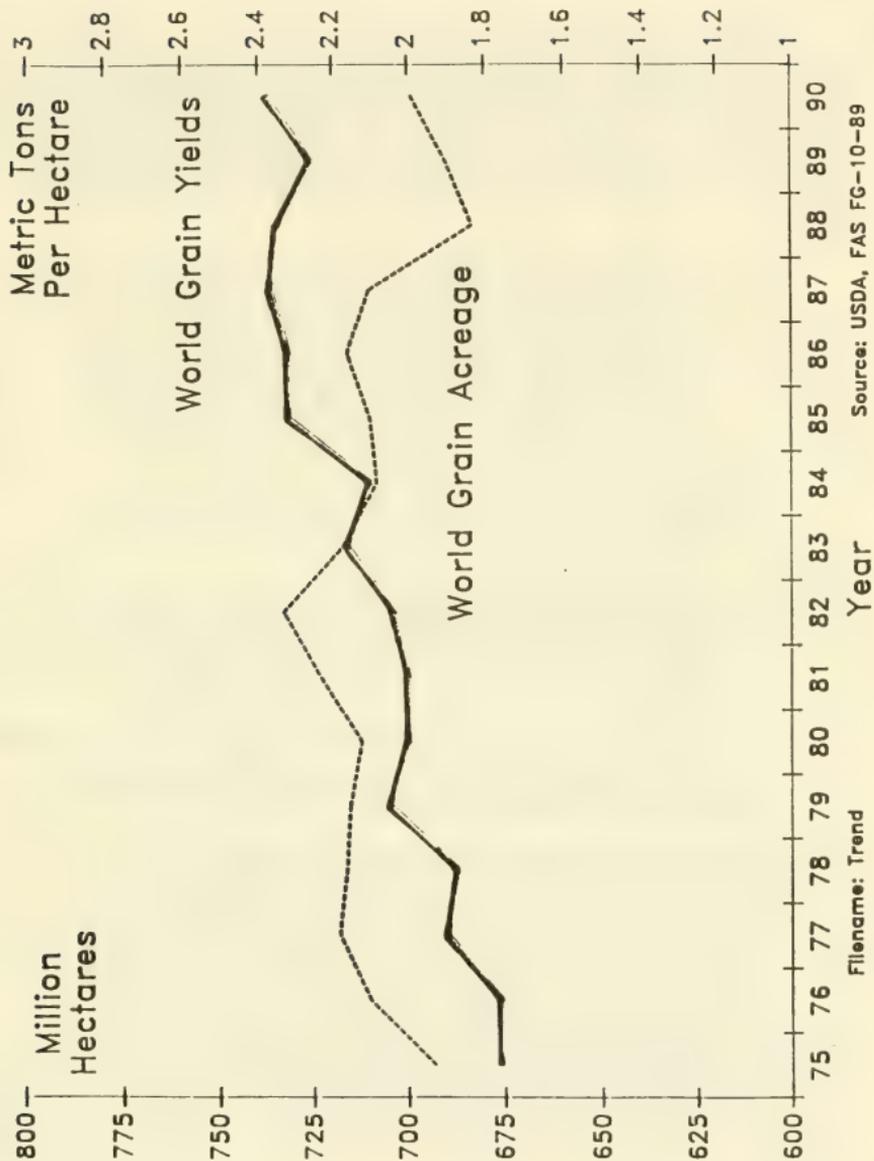


FIGURE 6



Filename: Trend

Source: USDA, FAS FG-10-89

To meet the world population--and hopefully income--increases in the years ahead some combination of yields and acreages will need to increase. Environmental pressures worldwide will surely continue to put downward pressure on increasing acreages for production. To close the gap, yields will have to increase even more so, but there are no dramatic breakthroughs on the horizon and there are numerous obstacles in areas, like biotechnology, which hold potential for farm productivity and environmental gains.

Ruttan<sup>2</sup> assesses the situation and prospects as follows:

Now in the closing years of the 20th century we are completing one of the most remarkable transitions in the history of agriculture. Prior to this century almost all of the increase in food production was obtained by bringing new land into production.... Yet in the next century, almost all increases in world food production must come from higher yields--from increased output per hectare. This shift from expanding crop area to increasing land yields has been underway in most of the developed world since the turn of the last century....

As we look toward the future, however, we know that the demand increases will be large. The demands related to population growth and improved incomes in the developing economies will be exceedingly high. During the next several decades growth in food and feed demand rising from growth in population and income will run upwards of 4.0 percent per year in many developing countries. Many will experience more than a doubling of food demand before the end of the second decade of the next century....

Several developments suggest that gains in agricultural production required over the next quarter century will be achieved with much greater difficulty than in the immediate past. Difficulty is currently being experienced in raising yield ceilings for the cereal crops which have experienced rapid yield gains in the recent past. The incremental response to increases in fertilizer use has declined. Expansion of irrigated area has become more costly. Maintenance research, the research required to prevent yields from declining, is rising as a share of total research effort.

Further, the institutional capacity to respond effectively to these developments is limited, even in the countries with the most effective national research and extension systems. Indeed, during the 1980s, many countries have had difficulties maintaining their agricultural research capacity at levels achieved in the 1970s....

.... Almost all increases in agricultural production over the next several decades must continue to come from more intensive use of land currently in use. Improved crop and animal productivity will come from better plant and animal breeding, more effective animal nutrition, and more efficient use of technical inputs including chemical fertilizers and pest control chemicals. *[Emphasis in all quotes in this paper were added by the writer.]*

Even so, the productivity gains from conventional sources are likely to come in smaller increments than in the past....

Policymakers rewriting the Clean Water Act will need to make sure that they recognize the economic pressure on U.S. farmers from these underlying trends. The world food balance is too precarious to adopt policies which will adversely impact U.S. yield and acreage opportunities in the years ahead.

#### Issue #1 -- Property Incentives

The first major economic issue that all farmers now worry about is the right to own property and to use it efficiently.

The confusion about federal wetland delineations among at least four federal agencies, the passage and now implementation of the Coastal Zone Management Act (CZMA) amendments, endangered species, FIFRA and Senate Bill 1081 to rewrite the Clean Water Act all have command-control regulations for farm activities and have added to the risk and uncertainty in the U.S. farming business.

Farmers respond to incentives. The incentives to own and manage private resources is probably the most powerful economic incentive from the farmer's perspective. The idea of owning and improving the farm resource base, motivates farmers to take the risks that lead to long-term farm productivity gains. The incentive to pass on a productive farm unit to heirs or to sell the unit based on its productive value is a powerful motivation for farmers.

Ownership of property is the right above all others that enabled the common man to ascend from serfdom. It is the most basic of human rights which are essential to freedom and progress. Property ownership and its use is essential as a stimulant to productive effort. Unless people can feel secure in their ability to retain the fruits of their labor, there is little incentive to save and expand the fund of capital--the tools and equipment for production and higher living standards. Farmers are feeling less and less secure in their rights to property and, as a result, their incentives are diminished.

Markets cannot exist without property ownership. Private property produces an efficient use and allocation of scarce resources. Any infringement on property rights reduces the efficiency of our economic system, raises output costs, and lowers living standards.

The right to own and use property causes individual farmers to better cope with variations in annual income in order to accumulate wealth by building a productive asset base over time. Ownership and control motivate farmers to create wealth through innovation.

The systematic erosion of the right to own and use property is now causing farmers to seriously wonder if they will only be left with the ownership responsibilities of paying taxes, mortgages and insurance, but without the right to use the resources efficiently. Do policymakers wish to trade off farm productivity gains for uncertain surface and groundwater improvement? Rewriting the Clean Water Act will strike at the heart of the economic incentive structure on which U.S. agriculture depends.

Command-control policy approaches where government specifies "the correct" technology, if applied to nonpoint source problems in agriculture, will have serious negative farm productivity implications for the longer term. Negative motivation stifles innovation, raises costs, and reduces productivity.

If anything has been learned from recent developments around the world, it should be that central command-control approaches do not work. Now is the time to invigorate, not denigrate, the institution of private ownership and control and use it to everybody's benefit in solving water quality problems. This is at the heart of the economic incentive structure of U.S. agriculture. Solving nonpoint source pollution problems must work in harmony with private property values and the incentives of ownership.

Current wetland regulations are the antithesis of using the incentives of property ownership. Farmers have been penalized for good faith efforts to construct and conserve bona fide wetlands. Others have been left with no use of their property, substantial fines, hours of red tape, confusion and lost productivity. The new Clean Water law must reject these precedents.

### Issue #2 -- Science Missing

A second economic issue in the Clean Water Act rewrite is the fact that we simply cannot prove the cause/effect linkage between specific farm level activity and water quality. Broad generalizations, allegations and nonscientific monitoring (Clean Water Act, Section 305B State Reports to EPA) are not sufficient to make policy recommendations for widespread changes in farm practices. We must do better.

It is not good enough to say that answering the scientific cause/effect relationships is "too costly" or "impossible." It will be even more costly to not discover the scientific relationships between activities and practices on individual farms and water quality. This point is made frequently in the literature by economists who have avoided the trap of aggregation and focused on the micro implications of farm level water quality policy issues.

In the textbook, *Environmental and Natural Resource Economics*,<sup>3</sup> Tietenberg, argues as follows:

One way to tailor the policy is to focus, at least initially, on those pollutants causing the most damage. Unfortunately, there is very little hard information available on the damages caused by nonpoint pollution. This makes it difficult not only to set priorities for controlling various categories of nonpoint pollution, but also to secure the efficient balance between controlling point and nonpoint sources.

How should policy makers react to this uncertainty? Watson and Ridker [1982] set out to answer this question by quantifying the costs associated with various policy approaches. **They specifically considered the cost of being wrong in the sense of making one policy choice (a strict focus on point sources) when another choice (a balanced program of controlling point and nonpoint sources) was appropriate.**

Their results indicate that **the cost of being wrong is so high that the government would benefit from investing time** (by delaying implementation of the most stringent point source controls) **and resources (by conducting research on the intensity of nonpoint pollution damages and costs)** before making a specific policy choice that could prove to have been a serious mistake. **Sometimes procrastination can be efficient!**

In a paper, "The Impacts of Nonpoint Source Pollution Regulations on Mississippi Agriculture"<sup>4</sup>, Hurt and Reinschmiedt give the farm-level application of Tietenberg's argument:

Ultimately, the question of what constitutes acceptable levels of erosion control and water quality will be the overriding issue facing agriculture and society. **Resolution of this issue will require substantial increases in both technical and economic research.** Technical research is needed to provide more and better information about the physical parameters of the water quality-agricultural production relationship. Economic research is needed to provide more and better information about benefits-costs and their distribution among the various segments of society and over time. The penchant of agricultural economists is to address the aggregative, longer term, broad, general policy type issues regardless of the quality of technical information available....

Many specific tasks and questions must be identified prior to designing and conducting the research. One of the first tasks is to specify in detail the practices and activities included in each **crop production/erosion-pollution control system**. For example, the following items must be specified:

- each tillage practice and its timing.
- each pesticide application and its timing.
- each fertilizer application and its timing.
- harvesting procedures and residue management, and
- other erosion-pollution-production practices affecting the variables of interest.

Ideally, a set of systems would be specified spanning the range of alternatives available....

Once a practical set of alternative systems has been identified the research must be designed to address certain questions about each system in the set. Some of these questions are:

1. What are the expected yields and costs per acre and their variability and distribution over time?
2. What is the expected erosion, what is its distribution within a year and over years, and what is its relationship to water quality?
3. What is the expected sediment, nutrient, pesticide, and toxic chemical content of runoff and its distribution spatially and temporally?
4. How would the answers to the preceding questions differ for alternative soil-slope-rainfall situations?
5. What are the relationships among the variables identified (interaction)?

Ribaudo in his article "Agriculture and Water Quality"<sup>3</sup> further clarifies the issues:

The contribution of cropland or other nonpoint sources to pollution varies from one location and time to another. Identifying which land and land use is subject to substantial loss of sediment, nutrients, and pesticides is difficult without expensive monitoring systems. The variability of climate, soil traits (erodibility, hydrological features, ability to bond with chemicals, productivity for crop production), a watershed's ability to absorb pollution, and other factors make it difficult to evaluate how much a single field or farm affects water quality downstream....

All factors affecting water quality and resulting economic damage must be considered before implementing water-pollution control efforts. For example, the Corn Belt generates substantial erosion and sediment because it uses land

extensively for farm crops. However, regions with dense populations, high incomes, and concentrated industry such as the Northeast and the Lake States will feel the effects of water pollution more than a region like the Corn Belt that may have greater erosion problems but fewer people to feel its effects. **But, off-site damage associated with water pollution cannot be measured directly and the links between farming and affected water uses are not well defined. Many assumptions are made to estimate off-site damage, and both methods and data for estimating damage need to be improved....**

Ground water contamination occurs only in certain places, making it difficult to draw a broad perspective on pollution issues. Sites cannot be compared because data for individual wells are inconsistent. Evaluating the full extent of ground water pollution is made even more difficult by variations in well depths, sampling periods, chemicals tested for, land uses above contaminated sites, soils, and biologic, hydrologic, and geologic characteristics....

The facts of the matter are that the variability among practices on farms, among different farm units, among different farm regions is so great that applying the "one-size-fits-all," command-control regulatory approach to nonpoint source problems will erode farm productivity gains and ultimately reduce U.S. agriculture to a second-rate international competitor. The rest of the agricultural world will not remain idle while the U.S. plays trial and error with water quality policy for farmers.

Appendix A contains the maps and well testing data for two Ohio counties. These maps and data clearly illustrate how command-control, centralized rules for water quality will not work even within a township, much less within a county or within a state, region or the nation. Flexibility and positive incentives should be the key words in the Clean Water Act rewrite.

All agricultural systems must be site-specific and flexible enough to allow changes in management practices when Mother Nature throws a curve. This year's crop season has been an excellent example of widely variable weather events with which the farmer must cope. If a farmer plans to "no-till" a field but excess rain causes harvest machinery to leave ruts, the farmer needs to be able to smooth out the ruts with tillage without being charged for violating a conservation compliance plan. This kind of environmental enforcement has lost credibility with farmers. The environment is not improved, but the farmer's costs are increased.

**Issue #3 -- Diversion of Human Capital**

The regulatory pressures of wetlands, clean water, endangered species, coastal zone management, and the anti-technology media hysteria that currently drives the policy debate are already imposing costs on farmers in terms of the human intellectual capital that is now diverted to unproductive regulatory activity.

More and more time and resources are being diverted from finding better ways to produce the bushel, bale, pound and hundredweight to regulatory compliance. This is a cost not captured by most analysts. It is not captured in conventional data series. A day spent discussing whether a parcel of land is/is not a wetland is a day lost from thinking, planning, anticipating, studying the farm enterprise. A day spent worrying about future legal liabilities because current farm practices may not satisfy future federal regulators is a day lost for improving the farm business.

Command-control regulatory mandates for farmers are at odds with the basic nature of the business--production, enthusiasm and excitement for what lies ahead. Command-control is negative, unproductive and backward looking. More and more farmers of all ages, particularly younger operators, are being turned off or away by the obstacles they now have in land and water regulations. An industry cannot grow when its intellectual capital and entrepreneurs are discouraged by a clouded and risky regulatory future.

**Issue #4 -- Lower Asset Values**

Constraints on farm resource ownership and uses will sooner or later translate into a lower income stream as land uses are restricted. With income potential reduced, asset values will surely decline. This economic issue poses substantial considerations for farm financial institutions, rural schools and other institutions dependent on the tax base. Rural development will be penalized in the process of more federal water quality micro-management.

It is not true that farmers can find economic Utopia through restrictions in asset uses with the prospect for longer term, higher commodity prices. This is not the way the world works. These lessons were learned through the production and marketing programs in the 1950s and 1960s and relearned in the early 1980s, as U.S. market shares declined, stockpiles accumulated, and government costs increased.

In the very short run, the idea of causing farm resources to be used less in order to drive up prices may hold. But longer term, a new equilibrium will be found unless all players in the world marketplace are forced to obey the same U.S. nonpoint source land and water rules. This is not a likely prospect.

Reichelderfer recognized the basic economic tradeoffs in her paper "Water Quality Legislation Affecting Agriculture." She stated:

As the prevalence of stricter environmental legislation increases, tradeoffs among the following sector-wide consequences will need to be considered:

- \* Higher commodity and consumer prices.
- \* Lower direct government expenditure for commodity price support.
- \* Changes in farm income distribution, including:
  - higher feed costs and lower income for livestock producers;
  - higher aggregate income from crop production, but with;
  - **reduced income for producers directly affected by restrictions.**
- \* Reduced demand for the services of upstream agricultural services (farm input industries).
- \* Less business for downstream agricultural industries (eg: food processing).
- \* Improved environmental quality, including safer drinking water for farm households and livestock.

Policymakers who fail to learn the lessons of resource use restrictions via regulatory controls or outright limits on farm production have not accepted the realities of the globalization of agriculture. Nor have they learned the economic lesson that living standards for all citizens cannot be improved by redistributing a smaller farm production pie. The pie must be made larger through the incentives of the marketplace and the

spur of competition that allows free individuals to evolve creative low-cost solutions to water quality problems and at the same time fully participate in the increasing world demand for food, feed and fiber.

#### Issue #5 -- Zero Must Go

Extending the technology-based, command-control policy and regulatory regimes to nonpoint source problems raises the fundamental economic issue of zero pollution. Zero pollution is simply an uneconomical and impractical policy goal.

In a forthcoming paper "The 1991 Clean Water Act: Reauthorize, Reform, or Repeal?" Meiners and Yandle write: Scientific evidence about the consequences of pollution tells us that we can stop short of zero discharge for many pollutants, but that we should strive for zero for certain toxic materials. **The old fixation on zero pollution is a barrier to effective, lower cost control.** If ambient quality standards are set for receiving waters, or the amount of pollutants that may be discharged are established, decision makers can solve the resulting problem. They know where they are headed; they must then find the most effective way of getting there.

The overall environmental debate and the water quality debate seems to have matured beyond the naive notion that zero pollution is a workable policy goal. The debate seems to be refocusing not on the "either/or" questions, but rather the "how" question.

"How" do producers solve serious environmental problems where these do exist at the lowest possible cost? With this question now being asked by mainstream policymakers, the debate has shifted away from the policy goal of zero pollution. This long-standing policy goal implied that producer and consumer costs do not matter. A shift from the goal of zero pollution to a goal of water quality improvement will be welcomed by farmers.

We now know that in the case of surface waters, streams can assimilate certain levels of pollution naturally. This should mean that scarce resources can now be allocated where these would yield the largest water quality improvements (and environmental gains).

In summary, abandoning the zero discharge and policy goal, except for proven toxic substances, should go a long way toward evolving real solutions to serious nonpoint source water quality problems. Establishing realistic standards for water

quality improvement is a substantially different objective than chasing the goal of zero pollution with ever-broadening command-control regulations and government mandated technology.

Once realistic standards are set for runoff-water from farm operations all participants will have a clearer idea of where they are headed. Ideas for "how to get there" will soon emerge if other economic fundamentals like respect for private ownership are not violated and incentives are in place to find low-cost remedies.

Shifting away from the unrealistic goal of "zero discharge" and on to performance standards will mean a shift by regulators away from trying to micro-manage inputs to monitoring output. Competition forces cost minimization. Competition rewards genius, creativity and entrepreneurship of those who innovate to meet the specified water quality standards. It punishes those with higher costs.

Farmers will respond as they always have to competitive forces provided the incentives are in place. In rewriting the Clean Water Act, policymakers would see substantial environmental gains to real problems if they make it clear that the policy is aimed at output results not input controls and that competition will be the driving force.

#### **Issue #6 -- Cost and Environmental Effectiveness**

The Coastal Zone Management Act amendments made very detailed management recommendations for farmers for grazing, erosion, nutrients and pesticides, irrigation and confined animal facilities. These measures and practices are well on their way to becoming the "farming law" in the states impacted by the CZMA. Policymakers are likely to extend these rules to the rest of the nation via the Clean Water reauthorization. At least two points need to be made.

First, it is not enough to look at the "macro" impacts of the proposed changes in farming practices in CZMA states. Totalling up the aggregate costs of Best Management Practices (BMPs) will in all likelihood mislead policymakers to believe that CZMA will not "cost very much."

The real cost of the CZMA regulations of land and water used in farming will be the cost imposed at the farm (firm) level of decisionmaking. For example, what will the new regulations do to the crop-livestock mix on a particular farm, the timing of field operations, production practices, size and structure of the farm unit? And to what alternative uses might the capital cost of the new regulations been used to make the farm more competitive? Perhaps more significantly from the standpoint of

many producers, the potential risk and liability of "being wrong," has proven to be a high cost in trying to comply with wetland regulations.

Secondly, the environmental effectiveness of the proposed regulatory measures have not been proven. Before imposing the proposed regulatory costs on the CZMA farming region (or the nation's farmers via the Clean Water reauthorization) policymakers should know whether these actions will, in fact, improve water quality. For example, the 100 horsepower tractor pulling the appropriate tillage equipment has proven far superior for runoff water control than terracing.

Given the lack of understanding of the real costs of more land and water restrictions on farmers and the uncertainty about the environmental effectiveness of various regulatory prescriptions should cause policymakers to look for superior approaches which will: (a) discipline cost and (b) evolve the best and lowest cost methods for improving water quality. This would mean a complete shift in regulatory focus from micro-management of all farm activities that involve land and water to management of output, i.e., setting realistic water quality standards, a timetable and incentives for achieving these new standards.

#### Issue #7 -- Risk Assessment

It has been said before but it is worth noting again that once the links between water quality and nonpoint source problems have been identified in site-specific terms, the next step should be to determine what the risks are to both human health and to well-defined environmental values. Simply put, farmers cannot stay in production if zero remains the federal policy goal of acceptable risk for humans, plants and animals.

As things now stand, the levels of chemicals allowed in the water are based on standards which have no scale for comparing relative risks from manmade chemicals to risks from "natural" chemicals. Present methods of risk assessment must be revised based on science and not the politics of the promise of risk-free living.

#### Issue #8 -- Economic Impact/Implications for New Entrants

Those who fail to accept the globalization of the U.S. economy and particularly of U.S. agriculture will insist on extending the command-control technology-based prescription to nonpoint source contamination problems. Absent scientific proof of the cause-effect linkages between site-specific farm-level activities and production practices, such a generalized approach

will penalize those farmers who for whatever the reasons, are already at or below common sense acceptable discharge levels. If this happens, one can expect the cost of production to rise unnecessarily for those who are already doing a "good job."

The example of mandating concrete bunkers for fertilizer and fuel storage facilities comes to mind. For those producers (and/or their supply cooperatives) who have superior management plans and practices and who have never had spills or leakage this is an unnecessary and added cost. It contributes nothing to farm-level productivity improvement. A more enlightened approach would be to enact policies which reward, not punish, better managers. Markets are much more efficient at the reward/penalty process than regulators.

Farm structure will definitely change if command-control, technology mandates are extended to nonpoint source problems. New entrants--those without accumulated capital resources--will be forced to chose between investing in innovative farm production methods or pollution control investments which add nothing to farm productivity.

Increased federal pollution control mandates will translate into farm consolidations. Fewer and larger farm units which are financially equipped to "do what the regulators tell them to do" will soon emerge. This process is already underway. Many farmers are already to this point when they contemplate the cumulative effect of wetlands and fertilizer and pesticide aspects of their operations. Given the age of some farmers, present costs and future liabilities are not worth staying in business.

Instead of the traditional competitive, family-farm diversified structure, U.S. agriculture will be headed toward a corporate-state centralized large-scale farming system of a public utility variety.

Prescribing technology for pollution control will ultimately lead to federal regulators prescribing crop and livestock practices, and production and marketing controls. The only unregulated farm activity that will remain will be rates of return. Regulation of returns will surely follow once the centralized food production system leads to politically unacceptable food prices or unavailable supplies.

U.S. agriculture, will, by discouraging young creative producers, be left with the exact opposite outcome--producers who know little about the art forms of food production and a lot about responding to federal regulators. Such an outcome is not indicative of growth industry status. Several analysts have noted the unequal distribution and impact of environmental

regulations. These costs will fall disproportionately large on small and mid-sized farm operations.

Ribaudo<sup>o</sup> captures many of these points:

Laws aimed at protecting water quality will affect farmers' pocketbooks. Farmers in critical or sensitive watershed areas could be faced with such actions as:

- Taxes on nitrogen fertilizer and pesticides.
- Mandatory soil conservation management practices, with or without Government cost sharing.
- Bans on certain pesticides known to leach into ground water in significant quantities or known carcinogens.
- Regulations on land uses, on types of land on which chemicals can be applied, and on the quantity of chemicals used.
- Mandatory management practices for applying chemicals (for example, requiring injection instead of mixing chemicals with irrigation water).

Any of these actions could change farmers' operations. They could have to:

- Reduce inputs, particularly nutrients and pesticides.
- Use structural practices such as grassed waterways to reduce runoff and associated pollutants.
- Change tillage or other management practices.
- Change land use, such as altering the intensity of the crop rotation or converting land from row crops to hay.

**Any of these changes could cut incomes if production costs increase, yields decline, or both.** If fertilizers and pesticides are taxed, farmers will face higher production costs.

Constrained fertilizer use will reduce crop yields. If specific pesticides are banned, farmers will have to shift to either more expensive or less effective chemicals, or cultivate more land.

Curtailing nitrogen use or banning heavily used pesticides **could mean yield losses for most major crops**. Pesticide suppliers could be hurt sharply by widespread bans on some chemicals. And, **farm income and corporate profit losses could be substantial....**

**Restrictions on farming could affect local economies and the distribution of cropping activities.** For example, some regions would face considerably greater yield losses than others if wide-ranging pesticide, fertilizer, or sediment restrictions are imposed. Regions affected less by environmental controls would acquire a competitive advantage over more affected regions, and production of crops that are affected by bans would shift to less affected regions. **Sensitive watersheds targeted for control would become less competitive as production costs rise for affected crops.**

Widespread changes in agricultural production, brought about by legislation to protect water quality, could affect crop prices. For example, banning important pesticides such as the triazine herbicides could significantly reduce corn yields and increase corn prices. Farmers would benefit from the higher prices, but consumer costs for food would rise from current levels. However, most steps taken to protect water quality likely will be local, not national, in scope....

Richardson<sup>10</sup> explained what would happen to the economic viability of a representative 1,360 acre dryland Texas cotton farm under alternative conservation compliance regulations. Farms forced to comply with the High Residue-Basic System (planting a low residue crop in combination with a high residue crop) were shown to experience substantial reductions in net farm income, net worth, and their probability for survival. The approach by Richardson, et al, should give policymakers a clue as to what will happen to farm income, agribusiness and the rural economy through water quality mandates at the farm level. In summary, if higher water quality is pursued through policies that change farming systems--crop mixes and cultural practices--there will be reductions in farm income. The economic reason for this

outcome is that farmers are already profit maximizers. Farm system changes will increase upfront costs, likely mean higher annual operating cost and increase yield risks.

#### Issue #9 -- Rural Development

A regulation induced reduction in farm numbers will surely translate into reduced opportunity off the farm in rural areas and communities. Larger farm units are not as likely to do business locally. These units will be large enough to buy direct from input suppliers, bypassing the services of local farm input suppliers. Maintaining the competitive family farm structure through a new focus on water quality standards would not have this negative impact.

#### Where From Here?

Extending the proposals in S. 1081 and the Coastal Zone Management Act amendments to the Clean Water Act reauthorization will not be in the economic interest of the nation or farmers. Water quality improvements will be meager for the tax money spent and costs imposed on farmers and the private sector generally. These provisions violate the fundamental principles of property ownership and common sense knowledge about the nature of the farm business. Water quality will not improve in proportion to the money spent and there will be extensive restructuring and dislocation among farmers and within rural America.

Citizen controls, controls on technology and farm practices, task forces without farmers (who have a major stake in the legislation), controls on conservation reserve program acreages and animal waste facilities, controls on fertilizer sales and use--these are the basic tenets of S. 1081.

S. 1081 simply follows along the same command-control path as the Coastal Zone Management Act amendments which have already extended the heavy regulatory hand of the federal government. The Coastal Zone Management Act considers livestock production not as an end in itself, but rather as a tool in overall "ecosystem" management. New production facilities will be expected to be built according to new management measures. There is no administrative vehicle for farmer input in the gamut of provisions that will negatively impact their lives and businesses. Both the CZMA and S. 1081 ignored the economic fundamentals discussed in this paper. We hope that Congress will not sweep these aside in the Clean Water Act reauthorization.

Given the significant economic implications for farmers and rural America, farmers are very concerned that the Clean Water rewrite should have substantial input from the Senate and House

Agriculture Committees. Those bearing the economic brunt of this new law should have something to say about its provisions. There will not be a farm or rural community that will not be adversely affected by this forthcoming legislation. At a minimum, there should be extensive field hearings on this legislation.

Should Congress fail to recognize the fundamental economic issues raised in this paper, at a minimum, lawmakers should consider the following practical issues as it rewrites the Clean Water law.

Nonpoint source programs should be voluntary and emphasize the use of cost/benefit effective best management practices.

Nonpoint source information, incentives, technical assistance and cost share programs with landowners are essential to success of a nonpoint source program. Limits on agricultural conservation payments should be removed. The concept of "trading" to reduce overall discharges should be considered as a potential incentive to land owners.

Water quality programs should be on a watershed basis using a "worst case first" approach.

Increased scientific research and evaluation is needed to determine the true extent and sources of pollution.

States should retain primacy for designating uses, determining impaired waters, establishing standards and criteria, and developing and implementing appropriate response programs and plans. Site specific problems require site specific responses. Development of state plans should rely heavily on local input.

State water rights and water allocation systems should be preserved for existing and future projects.

The current scope of the Clean Water Act should remain that of clean water and should not be expanded to one of biological diversity.

Any Clean Water Act reauthorization should include reform of Sec. 404 provisions affecting wetlands.

### Concluding Comments

The real agenda in the national water quality debate is that the cost of further restrictions on point sources is very high relative to potential environmental gains and, therefore, it will be "cheaper" to impose restraints on agricultural activities (nonpoint sources). This naive assessment could produce substantial unintended economic consequences and little water

quality improvement if policymakers fail to account for the importance of fundamental economic issues for the typical farm enterprise.

Further, in a recent *Resources for the Future*' assessment of the nation's renewable resource base, Frederick stated:

The quality of a water body can be defined in various ways, including the effluents it receives; its chemical, physical, and biological attributes; and the socioeconomic benefits and costs associated with specific uses. The *National Water Quality Inventory: 1986* (U.S. Environmental Protection Agency, 1987) assessment of surface-water quality is based on state reports indicating whether state water resources are capable of fulfilling the uses designated by the states. The results of the inventory suggest that nearly 18 percent of the assessed rivers, lakes, and estuaries were capable of only partially supporting their designated uses, and that 7 percent were too polluted to support any designated uses. These percentages may overstate the national magnitude of the water-quality problem because the states tend to focus their monitoring resources on the waters most likely to have problems. Only 21 percent of the nation's rivers, 32 percent of the lakes, and 55 percent of the estuaries actually were assessed for the 1986 inventory. **If all the water bodies that were not assessed for the 1986 inventory had fully supported their designated uses, then 95 percent of the river miles, 92 percent of the lake acres, and 86 percent of the estuary areas would have supported their designated uses** (Fedkiw, 1989). Although this conditional calculation probably understates the extent of the nation's surface-water quality problems, it does help establish a range that suggests from 74 to 92 percent of all surface waters fully supported their designated uses.

If Frederick's analysis is correct, now is hardly a time for policymakers to panic by adopting massive federal command-control policies and programs to further improve a relatively small percentage of the nation's surface water. Surely more cost-efficient and environmentally effective policies can be found which build on the long-standing conservation ethic of farmers, property ownership and control, market-based incentives, competition, and scientific research.

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- <sup>21</sup> Vernon W. Ruttan, "Sustainable Growth in Agricultural Production: Into the 21st Century," *Choices*, 3rd Quarter, 1992.
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- <sup>51</sup> Marc O. Ribaud, "Agriculture and Water Quality," USDA Agriculture Information Bulletin #548, August 1988.
- <sup>61</sup> Katherine H. Reichelderfer, "Water Quality Legislation Affecting Agriculture," USDA Agricultural Outlook '89 Conference, November 30, 1988.
- <sup>71</sup> Roger E. Meiners and Bruce Yandle, "The 1991 Clean Water Act: Reauthorize, Reform, or Repeal?" forthcoming paper.
- <sup>81</sup> Marc O. Ribaud, "Agriculture and Water Quality, August 1988.
- <sup>91</sup> Kenneth D. Frederick and Roger A. Sedjo, editors, *America's Renewable Resources, Historical Trends and Current Challenges*, Resources for the Future, 1991.
- <sup>101</sup> James W. Richardson, et al, "The Economic Impacts of Conservation Provisions in the 1985 Food Security Act on a Representative Dawson County, Texas Farm," AFPC Policy Research Report 89-1, College Station, Texas, June, 1989.

**Appendix A**

- Auglaize County "A Summary of Nitrate Concentrations..."
- Auglaize County dot map
- Tuscarawas County "A Summary of Nitrate Concentration..."
- Tuscarawas County circle map

# AUGLAIZE COUNTY

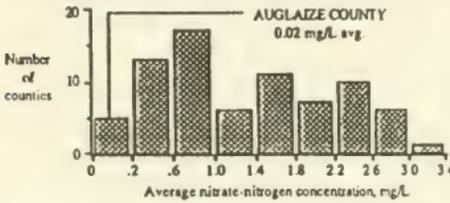
## A Summary of Nitrate Concentrations in Private Wells

SAMPLES COLLECTED MARCH 1988

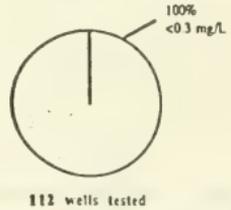


The concentrations of nitrate + nitrite-nitrogen, given in milligrams per liter (mg/L), were measured in 16,166 private wells from 76 Ohio counties. The following bar graphs indicate how Auglaize County compares with the other counties in terms of average concentration, number of wells tested, and the number of wells registered. The pie charts indicate the proportions of wells falling within four nitrate concentration ranges for Auglaize County and for all wells tested.

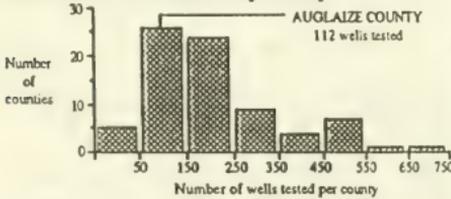
Average nitrate concentrations by county



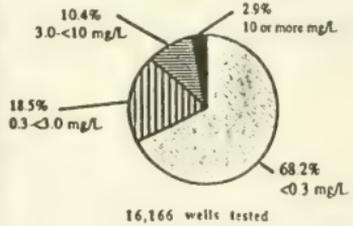
Nitrate concentrations in Auglaize County (average 0.02 mg/L)



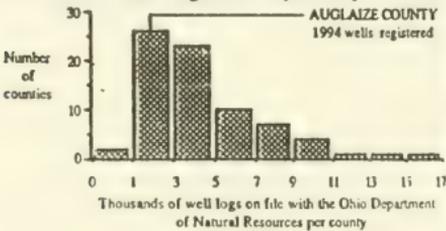
Number of wells tested by county



Nitrate concentrations in all wells tested (average 1.32 mg/L)

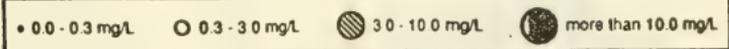
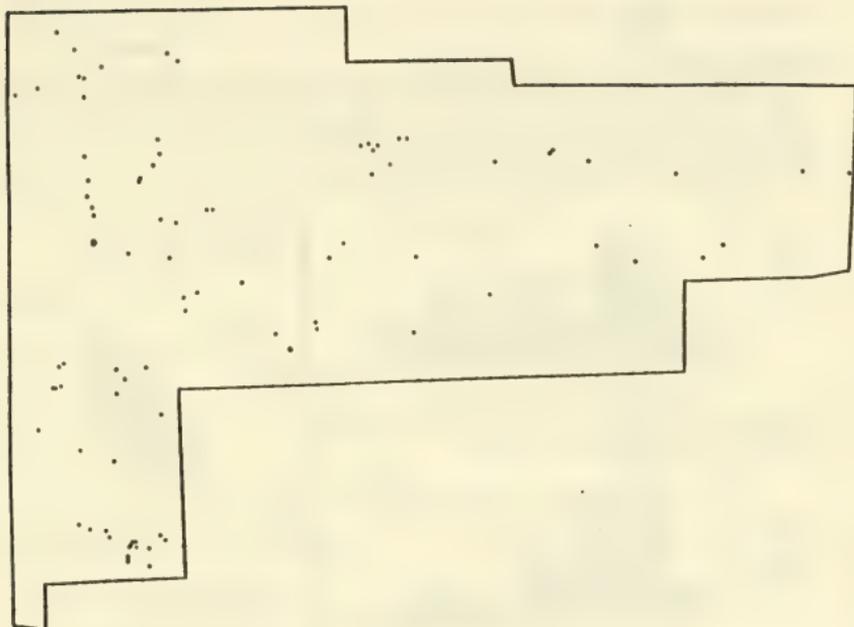


Number of wells registered by county



Source: Nitrate and Pesticides in Private Wells of Ohio: A State Atlas

## AUGLAIZE COUNTY



Source: *Nitrate and Pesticides in  
Private Wells of Ohio:  
A State Atlas*

# TUSCARAWAS COUNTY

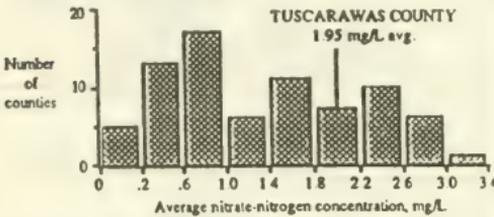
## A Summary of Nitrate Concentrations in Private Wells

SAMPLES COLLECTED DECEMBER 1988

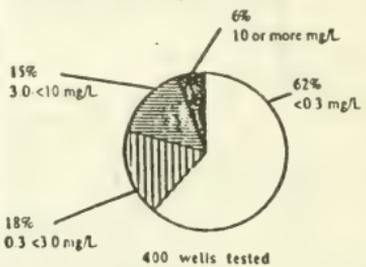


The concentrations of nitrate + nitrite-nitrogen, given in milligrams per liter (mg/L), were measured in 16,166 private wells from 76 Ohio counties. The following bar graphs indicate how Tuscarawas County compares with the other counties in terms of average concentration, number of wells tested, and the number of wells registered. The pie charts indicate the proportions of wells falling within four nitrate concentration ranges for Tuscarawas County and for all wells tested.

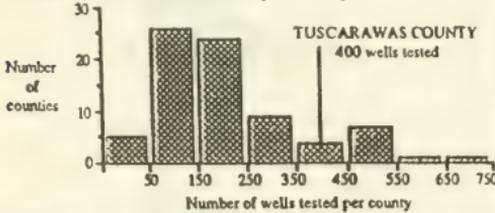
Average nitrate concentrations by county



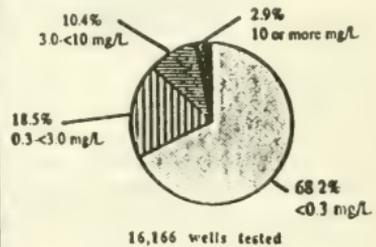
Nitrate concentrations in Tuscarawas County (average 1.95 mg/L)



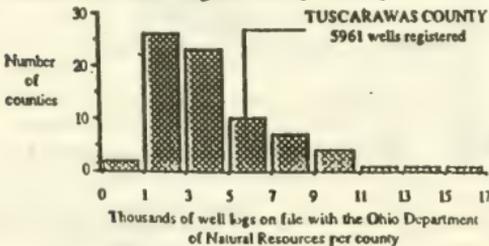
Number of wells tested by county



Nitrate concentrations in all wells tested (average 1.32 mg/L)

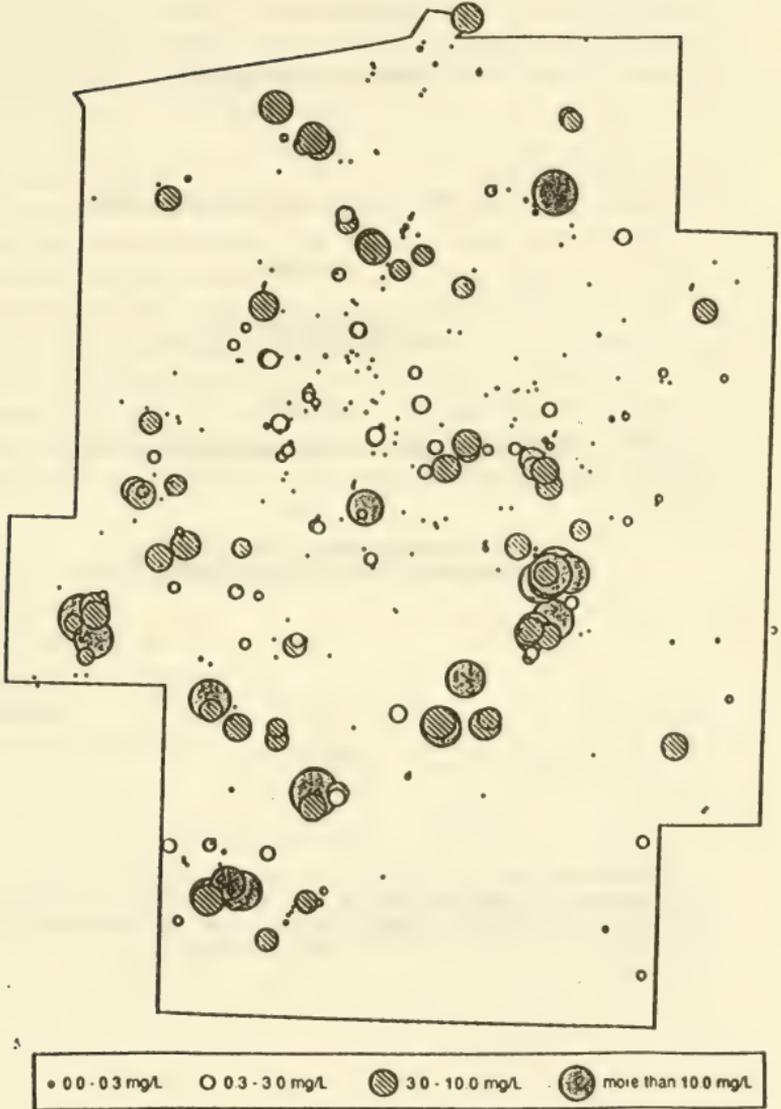


Number of wells registered by county



Source: Nitrate and Pesticides in Private Wells of Ohio: A State Atlas

## TUSCARAWAS COUNTY



Source: Nitrate and Pesticides in  
Private Wells of Ohio:  
A State Atlas



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PRESENTED BY PAUL GENKO

**WRITTEN TESTIMONY**

on behalf of

**NATIONAL CATTLEMEN'S ASSOCIATION**

in regard to

**Reauthorization of the  
Federal Water Pollution Control Act**

submitted to

**The Subcommittee on Water Resources and Environment**

of the

**United States House of Representatives  
Committee on Public Works and Transportation**

April 22, 1993

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The National Cattlemen's Association is the national spokesman for all segments of the beef cattle industry--including cattle breeders, producers and feeders. The NCA represents approximately 230,000 cattlemen. Membership includes individual members as well as 46 affiliated state cattle associations and 29 national breed associations.

The National Cattlemen's Association (NCA) represents 230,000 affiliated cattlemen from 42 states in this country. NCA has worked closely with other agricultural organizations over the last year and a half. These organizations under the rubric of the Clean Water Act Working Group have formulated a Statement of Principles for reauthorization of the non-point source provisions of the Clean Water Act (CWA). NCA and the 20 organizations listed on the attached statement strongly support these principles for effective NPS programs on agricultural land. NCA also supports the testimony offered today by the National Waters Resource Association on state primacy in water allocation and administration.

Cattlemen across the country are vitally interested in this reauthorization of the Clean Water Act. There has been no other CWA reauthorization or any other federal statute for that matter, which potentially could have such pervasive impact on land and water use fundamental to agriculture. Cattlemen own and operate on land which encompasses over half the U.S. land mass...land in widely varied geographical settings. Approximately 85% of U.S. cattle are finished in feedlots which have been permitted under Section 402 of the CWA since 1972. From Florida through Iowa to even arid areas of Nevada and further West, many cattlemen use wetlands for haying and grazing. Although NCA and the entire agricultural community have vital interests in the CWA's treatment of non-point source issues, there are several other areas of the CWA of direct importance to cattlemen. NCA's written testimony covers the following six general areas:

1. Goal and Purpose of CWA
2. State Primacy
3. Point Source Provisions
4. Non-Point Source Provisions
5. Wetlands
6. Private Property Rights

## 1. GOAL AND PURPOSE OF THE CLEAN WATER ACT

NCA's policy holds that the CWA should maintain its original and current focus on the control of discharges of pollutants to "water of the U.S." as necessary to protect classified uses of a particular water body as are designated by states. This goal should not be changed, directly or indirectly, to create a federally driven program for restoration of aquatic habitats as measured by pristine standards of "biological integrity." Human modification of "aquatic habitat" should not be viewed as pollution unless the modification prevents attainment of the state designated use based standards. Water withdrawals, in particular, will inevitably alter some aspect of the physical or biological "integrity" of the stream because the water course will no longer have the same amount of water.

## 2. STATE PRIMACY

States should clearly retain primary authority in designating water use, establishing water quality standards, and in allocating quantities of water. States should also retain clear authority on land use decisions. To the end of controlling or preventing nonpoint source pollution, the CWA should not be used as a vehicle for imposing EPA driven land use planning. Questions of the regulation of land and water use should remain the prerogative of state and local governments. This is not only a constitutional principle; it is one that makes economic and environmental sense. State governments familiar with their own geographical, economic, and ecological particularities are best equipped to make decisions about land and water use.

## 3. POINT SOURCE PROVISIONS

Section 402 of the Clean Water Act (CWA) identifies point sources of pollution, and requires that water and process-generated waste water being discharged from these facilities be controlled. Many of these facilities are required to obtain a National Pollutant Discharge Elimination System (NPDES) permit. These point sources of pollution usually utilize an easily identified discharge system which directs effluents to "waters of the United States." For this reason, point sources of pollution have been the focus of the CWA during the majority of its first twenty years.

Traditionally, general agriculture has been considered a non-point source of pollution and has remained outside the purview of Section 402. On the contrary, one segment of agriculture has been regulated under Section 402 since the passage of the CWA (and even longer in some

states.) These facilities, labeled "Concentrated Animal Feeding Operations" (CAFO) are required to contain water and process generated waste water up to and including the greatest 25 year, 24-hour storm event and also required to obtain NPDES permits. CAFO's are a subset of "Animal Feeding Operations" which may or may not require NPDES permits. The broader group of Animal Feeding Operations are defined as a lot or facility where:

- 1) Animals will be stabled and maintained for 45 or more days each year, and
- 2) Vegetation is not sustained during the normal growing season over any portion of the lot or facility.

There are also three criteria which distinguish a CAFO from an "Animal Feeding Operation." An "Animal Feeding Operation" is considered to be a CAFO with regard to beef cattle if:

- A. More than 1,000 head of beef feeder cattle are maintained on the site; or
- B. More than 300 head of beef feeder cattle are maintained on the site and either of the following two conditions are met:
  1. Pollutants are discharged into navigable waters through a man-made ditch, flushing system, or similar man-made device; or
  2. Pollutants are discharged directly into "waters of the United States" which originate outside of and pass through the facility; or
- C. As determined by the Director on a case-by-case basis, an "animal feeding operation" is determined to be a significant contributor of pollution to "waters of the United States." Factors to be considered in making this determination include:
  1. The size of the facility and the amount of wastes reaching "waters of the United States";
  2. The location of the facility relative to "waters of the United States"; and
  3. The means of conveyance for waste water into "waters of the United States."

As was stated earlier feedlots are allowed no discharge under the NPDES permit program, except in the case of 25 year, 24-hour or greater storm event. For most industries, however, the NPDES program sets much different requirements. Most industries are allowed to discharge effluents to "waters of the United States," provided that effluent quality is within limitations of

the permit. Once again, agriculture is a round peg trying to be forced into a square hole. NCA would like to demonstrate how inappropriate permits are for beef cattle feedlots. As we have described earlier, the CWA requires all feedlots 1,000 head and greater in capacity, to control runoff and obtain NPDES permits, regardless of whether they contribute pollution to "waters of the United States." On the other hand, 40 CFR Part 122, Appendix B, goes on to state that those facilities which discharge only in the case of the greatest 25 year, 24-hour storm event are not required to obtain NPDES permits. The paragraph states:

*Provided, however, that no animal feeding operation is a concentrated animal feeding operation as defined above if such animal feeding operation discharges only in the event of a 25 year, 24-hour storm.*

NCA agrees with the later; those facilities which discharge only as the result of a storm of significant magnitude (25 year, 24-hour event) should not be required to obtain NPDES or other permits. This is a common-sense approach that realizes that the weather cannot be controlled through legislation or regulatory measures.

According to USDA/Economic Research Service, in 1990 nearly 85% of the fed cattle marketed were raised in feedlots of 1,000 head capacity or greater. This compares to slightly over 72% in 1980. Additionally, marketings of fed beef cattle decreased by almost 3% during this ten-year period, making the 13% increase even more significant. This is the highest percentage of any animal species regulated by the NPDES program. As the statute is currently written, a significant majority of fed beef cattle are being raised in feedlots subject to Section 402 requirements. For this reason, few gains could be made in water quality by expressly regulating smaller beef cattle facilities. As indicated above, current authority allows regulation of any CAFO of any size if determined to cause significant pollution. NCA supports the current Section 402 provisions and would offer several clarifying amendments to make Section 402 more effective for large feedlots.

NCA would propose changes be made to the existing Section 402 of the CWA, as it pertains to CAFO's which would help achieve the existing goals of the CWA. These changes are briefly outlined below, along with a brief explanation in italics:

- Livestock manure facility design criteria should not be limited by federal mandates. States shall be allowed to promulgate state guidelines which meet the federal effluent guidelines (no discharge for a specified precipitation event.) *Based on climate, geography and other physical characteristics, states are best suited to determine appropriate facility design criteria which meet federally-mandated "no discharge" requirements. In many cases, a settling basin, used in conjunction with grass filter strips, may adequately control runoff from beef cattle feedlots.*
- The federal statute should be consistent with regulations (40 CFR Part 122, Appendix B) which confirm that facilities which do not discharge to "waters of the United States" are not required to obtain a permit. *The jurisdiction of the CWA is limited to "waters of the United States." Therefore, facilities which do not discharge to these waters should not be subject to NPDES permits.*
- Feedlots which do not discharge to "waters of the United States" should not be required to obtain Stormwater Discharge permits. *Stormwater permits or other similar permits are inappropriate for facilities which do not discharge to "waters of the United States."*
- Permits, once obtained, shall be valid until considerable changes are made to the facility which require that they be modified. *Unless significant structural changes are made, reissuance of permits is unnecessary.*
- An Environmental Impact Statement should not be required for NPDES permitted livestock facilities.
- In the event of a permitted discharge, no effluent toxicity testing shall be required. Facility design criteria reduces the toxicity of the "first flush" from these facilities. *Beef cattle feedlots typically do not utilize a flush system to transport manure from the feeding area. As a result, the majority of the manure remains in the feedlot and is managed as a dry product and applied to soil, providing nutrients and increasing soil tilth.*
- States should be delegated authority to implement all or selected portions (NPDES program for CAFO's) of CWA programs. *State authority to administer the NPDES program for CAFO's should not be held up by other NPDES program delays.*

- CWA regulations should recognize unique, catastrophic precipitation events which cause a discharge do not constitute a violation of the CWA. *In limited instances, significant precipitation events may occur in successive days which, while never exceeding the greatest 25 years, 24-hour storm event, cause discharges from NPDES regulated facilities. These infrequent discharges should not be considered a violation of the CWA.*
- The jurisdiction of the CWA should not be expanded to include groundwater, conveyance canals, ditches, or other non-navigable structures. *The jurisdiction of the CWA should continue to focus on navigable "waters of the United States," rather than being expanded to include isolated or intermittent waters.*

#### 4. NON-POINT SOURCE PROVISIONS

##### A. Section 319 is Basically Sound

As explained in the Statement of Principles attached to NCA's written testimony, NCA generally supports the current non-point source provisions in Section 319 of the CWA. NCA believes these provisions should be given additional time and adequate funding, with better targeting to impaired areas, before their effectiveness is judged. NCA's written testimony and others testifying today document the many USDA programs and state non-point source programs currently working to reduce agricultural runoff. Substantial progress already has been made.

##### B. NPS Benefits in Current Programs

NCA believes agriculture producers and USDA have already made significant strides in reducing agricultural runoff. We support the approach in the many USDA programs devoted to water quality. Just the Conservation Reserve Program (CRP) alone, from the 1985 Farm Bill, has prevented approximately 750 million tons of soil annually from entering streams and other surface waters. USDA estimates that when the CRP and Conservation Compliance Plans are fully implemented, cropland erosion will be reduced 50%. No less than six programs authorized by the 1990 Farm Bill will facilitate prevention of agricultural runoff. They include 1) Agriculture Water Quality Incentive Program, 2) Integrated Farm Management Program, 3) Sustainable Agriculture Research and Education

Program, 4) Integrated Management Systems Program, 5) Sustainable Agriculture Technology Development and Transfer Program, and 6) the Water Quality and Nutrient Management Research.

Many other USDA programs address this issue. USDA administers the President's Water Quality Initiative with projects in 74 Hydrologic Unit Areas in all fifty states. USDA's Small Watershed and Flood Prevention Program; Great Plains Conservation Program; Resources Conservation and Development Program; and the Cooperative River Basin Program - all directly or indirectly address water quality. USDA's participation in EPA's Rural Clean Water Program and in other state NPS programs from Section 319 of the Clean Water Act are other examples of USDA's active and effective efforts to prevent agricultural runoff.

An illuminating example is SCS' and Extension's leadership roles in California's Rangeland Water quality Management Program. This program will use field research, education and technical assistance to identify local rangeland water quality issues, develop best management practices, educational materials, conduct field days, workshops, and demonstration projects. An attached Fact Sheet on this program provides details.

This state program initiated through the NPS provisions of the current Clean Water Act is like many in other states. Most are new programs just now getting underway because of the delay in receiving federal funds for Section 319 programs. However, they are underway and they are voluntary, site-specific, locally implemented and USDA has a lead role on agricultural land.

### C. Approach to NPS

NCA believes the central focus NPS management programs authorized by the CWA should be a voluntary approach based on incentives, education, and technical assistance. This approach should emphasize locally designed and applied, economically feasible, site-specific management practices. Effectiveness testing needs to be built into these programs with goals based on a realistic time frame.

NPS management requires a different approach than point source pollution. Unlike point source, NPS is primarily a weather related phenomenon that can be managed but not eliminated. Sediment, the primary alleged constituent of NPS, is naturally occurring to say

the least. There will always be some amount of sediment movement across land as a result of water, wind, geological forces, and human use. Agriculture will always be the major source of runoff because of the patently obvious amount of land used by agriculture.

#### D. Agriculture's Role in Non-Point Source

This CWA's reauthorization consideration of non-point source is being driven by EPA's recent National Water Quality Inventories which claim agriculture is the cause of over half of non-point source pollution. NPS is viewed as the major remaining problem for water quality in the U.S. NCA strongly urges this committee to scrutinize the actual magnitude of agriculture's role by a careful, analytic review of the data upon which EPA issues this national summary. This data is contained in reports prepared by each state every other year (305.B reports).

A closer look even at EPA's own figures provides an important perspective, usually lost in repetitious claims about agriculture's major role. Using figures from EPA's most recent 1990 report, states reported impairments from NPS (of three different degrees) on 11% of total river miles. Agriculture's alleged role was 6.6% of this total. That 6.6% is even more than 50% of the problem, but it is not a problem on 50% of the river miles. This is the usual implication of this claim. When threatened and partial impairments are subtracted, the amount of complete impairments to designated uses caused by agriculture is from 2-4%.

States only provided data on 35% of total river miles. Would the rest of the data provide more or less blame for agriculture? According to EPA, impairments in unassessed waters are likely to be much less. States concentrated their limited resources for monitoring on priority waters, known or suspected to have water quality problems.

#### E. NCA Water Quality Information Project

NCA would really like to know where and what the problems are. Where there are genuine problems related to livestock production, cattlemen intend to do something about it. To this end, NCA has begun a Water Quality Information Project to review state 305.B reports. Our purpose is to determine exactly where there are NPS problems associated with beef cattle, the magnitude of the problem, cause, and means of remediation. The first year of this project will concentrate on 15 key states.

NCA's initial review of these reports, unfortunately, reveals just how little hard data there is in most of the reports. Where impairments are identified, there is usually only vague connection between the problem and the source. Typically, these reports merely identify the predominant land use, i.e. grazing or crops production, and label it as the cause of the impairment. NCA urges this committee to strengthen the monitoring and assessment activities in all NPS programs and to require uniform monitoring protocols such as those used by the US Geological Survey.

#### F. NPS and "Biological Integrity"

It is important to note that the prevailing impacts from this NPS attributed to agriculture are, according to EPA's Inventories, ecological...impacting uses associated with recreation, fishing, and wildlife. NCA urges this committee to realize that any elevation of federal mandates for water quality standards based on "biological integrity" will steeply increase the ante for NPS management. EPA's "Biological Criteria: National Program Guidance" would measure "biological integrity" on the basis of "natural" aquatic habitat devoid of any human impacts, i.e. use. In other words, a strengthened NPS program in the CWA might be feasible under current provisions for state designated uses. However, if this reauthorization gives EPA authority to compel states to establish "fishable and swimmable" standards for all water courses, the same NPS programs would become much more restrictive, i.e. precluding some land uses in certain areas.

#### G. Meaningful Targeting

This perspective on the actual known magnitude of NPS is not meant to deny that there are significant NPS problems caused by agriculture. However, on the basis of current data, it appears these genuinely, severe problems are limited to certain areas and not pervasive across the country. NCA believes the CWA programs on NPS should parallel this situation as it nearly now does with targeted programs such as the Great Lakes and Chesapeake programs. We urge Congress to provide meaningful targeting provisions with more criteria than any area with a reported impairment.

#### H. CZMA Approach is Inappropriate

Although coastal areas and estuaries are waters for which there is more meaningful data, reported problems and thus worthy of targeted programs, NCA opposes the approach

taken in recent amendments to the Coastal Zone Management Act. Under the sensible rubric of pollution prevention, these amendments have created a federally driven land use control program with minimum management standards. As written into law, the standards would be ENFORCEABLE for all land users in the coastal area. Particularly without any determination of whether a particular property owner is a cause of a problem, this kind of land use control is a serious infringement of property rights. With management standards issued by a federal agency, it is also a questionable arrogation of state's constitutional rights to control land use.

## 5. WETLANDS

NCA's policy on wetlands is attached. NCA urges this committee to confront and finally resolve this wetlands controversy. It is time to clearly establish precisely what is federal jurisdiction on wetlands. The current regulations are not supported by explicit legislative authority. Rather they are fueled by nebulous policy, conflicting court decisions, out of court settlements, and agency arrogance. A telling example of the insubstantial legislative foundation of current Section 404 authority recently occurred in a federal district court in Missouri. After reading the alleged statutory provisions and regulations authorizing the Corps of Engineers, the Court dismissed the case because of inadequate legal authority in the statute. It is well time for Congress to debate this issue and vote.

NCA feels there are a number of issues which must be resolved during this reauthorization of the CWA. These include recognition of agricultural practices which are exempted from permit requirements by Section 404(f), ranking wetlands according to their function and value, a definition which clearly delineates true wetlands from wetlands which exist only on paper, and recognition of the rights of property owners as guaranteed by the Constitution.

It is also important to note that while the Clinton Administration has not yet developed a clear policy position regarding wetlands, President Clinton has made significant comments recently which may provide insight to the Administration's position. President Clinton has indicated that a pledge of "no net loss" of wetlands is unnecessary and "becomes an incredible exercise in arithmetic." He has also identified a need for ranking wetlands in order of importance and that wetlands protection programs would be based on this ranking. NCA agrees with President Clinton that "no net loss" of wetlands is not the basis for sound policy decisions, nor should all wetlands be considered equal in terms of the functions, benefits and values that

they may provide to society. A balanced approach must be undertaken in wetlands policy which considers equally the protection of true wetland with the impact of these policies on landowners.

Section 404(f) of the CWA, more commonly referred to as the "agricultural exemption," has not been enforced on the ground as it has been written in statute. Practices as basic to cattle production as haying, grazing and normal maintenance activities have in many cases been stopped by Army Corps of Engineer field staff who have determined that Section 404 permits are required and in some cases denied. These activities do not represent significant changes in the use of these lands, nor do they constitute "dredge and fill" activities which have traditionally been the scope of Section 404 permits. Examples of activities which have been halted in lieu of permits include tilling hay and pasture lands in order to re-establish forage crops; maintaining stockponds, irrigation and drainage ditches in order to improve their efficiency; and the periodic removal of low growing shrubs and brush which reduce productivity of hay, pasture and range lands and limit these lands' ability to function as true wetlands. It is also important to note that haying, grazing and normal maintenance activities are beneficial, maintenance uses of wetlands which increase these lands' ability to provide wetlands benefits. Regular haying and grazing of wetlands vegetation during the drier portions of the year help maintain the vigor and health of wetlands vegetation. NCA urges this committee to include "haying, grazing and normal maintenance activities" specifically in Section 404(f) as examples of normal agricultural activities which are exempt from Section 404 permits.

One of the single most contentious issues surrounding the wetlands debate is the definition of a true wetland. Wetland definitions are certainly not consistent between the four federal agencies with wetlands jurisdiction, and have also been significantly changed with regard to which Federal Manual for Delineating Jurisdictional Wetlands is being enforced at any specific time. The recent shift to the 1987 manual by the U.S. Army Corps of Engineers and the Environmental Protection Agency is a step in the right direction.

NCA feels that it is imperative to statutorily define wetlands as areas which demonstrate all three definitive wetlands criteria (hydrology, hydrophytic vegetation and hydric soils) during the growing season. Adequate hydrology is essential for any wet area to be considered a wetland; therefore wetlands delineation should begin by identifying those areas where inundation of the surface occurs during a significant portion of the growing season. Additionally, hydric soil types and wetlands plants typically adapted to wet areas should be the predominant soils and plants present. This sound definition will help reduce the ambiguity under which most landowners currently exist.

Similarly, NCA opposes regulation of man-made wetlands resulting from irrigation and other water developments. Cattlemen and farmers have created thousands of acres with wetlands values, especially in arid western areas. Yet, the current program provides a disincentive for this environmentally valuable activity.

NCA believes that wetlands legislation should include provisions for wetlands definition and delineation. The pending National Academy of Sciences Study will likely throw scientific light on the issue. However, the question is to what extent the federal government has regulatory authority on what is well over 100 million acres of land. This question of federal jurisdiction on private land will not, and should not, be resolved by scientists. NCA believes this is a question that elected representatives must deliberate and decide.

Additionally, an appeals process should be added to the statute, whereby property owners without substantial means can appeal wetlands decisions made by regulatory agencies without having to engage in costly and often lengthy court battles. Under existing law, a landowners' only form of recourse is through the court system. Landowners must be afforded an opportunity to appeal wetlands decisions directly to the agency who made said decision.

Many of the aforementioned issues are embodied in H.R. 1330, The Comprehensive Wetlands Conservation and Management Act of 1993 (Hayes, D-LA.) This measure had received wide, bipartisan support during the 102nd session of Congress, and once again is being praised as a comprehensive wetlands reform measure which will balance wetlands protection with the right to own and manage wetlands. NCA supports H.R. 1330 as the vehicle for legislative reform.

## 6. PRIVATE PROPERTY RIGHTS

Finally, NCA urges this committee to keep in mind private property rights protected by the Fifth Amendment in your deliberation of wetlands and non-point source issues. NCA joins with a growing number of landowners seeking legislative guarantee for financial compensation from regulatory takings of property value and use. In recent years the Supreme Court and the U.S. Claims Court have continuously upheld the compensation requirements of the Fifth Amendment in what is now a series of cases. Yet the cost of litigation makes judicial relief an impossibility for a huge majority of landowners.

NCA also urges Congress to codify the general requirements of Executive Order 12630 which require federal agencies: 1) to assess the extent to which proposed action may infringe on property rights and 2) to minimize such infringement as much as is statutorily possible. We add that many of the regulatory proposals for NPS would meet with keen resistance from landowners which, given the greater numbers involved, probably dwarf the heated contention around wetlands.

**PRINCIPLES STATEMENT OF THE CLEAN WATER ACT WORKING GROUP**

**American Farm Bureau Federation**

**American Feed Industry Association**

**American Nurserymen**

**American Sheep Industry Association**

**American Soybean Association**

**The Fertilizer Institute**

**National Agricultural Chemicals Association**

**National Association of Conservation Districts**

**National Association of Wheat Growers**

**National Broiler Council**

**National Cattlemen's Association**

**National Corn Growers Association**

**National Cotton Council**

**National Council of Farmer Cooperatives**

**National Forest Products Association**

**National Milk Producers Federation**

**National Pork Producers Council**

**National Turkey Federation**

**National Water Resources Association**

**U.S. Rice Producers**

## CLEAN WATER ACT REAUTHORIZATION: NONPOINT SOURCE PROVISIONS

In the reauthorization of the Clean Water Act, Congress should adhere to the following principles:

1. The Clean Water Act (CWA) does not stand alone in protecting America's waters from nonpoint source (NPS) pollution. Other ongoing programs at the federal, state and local level must be funded fully, coordinated with and not superceded by the CWA. This includes, in particular, the soil conservation and water quality provisions of the 1985 and 1990 farm acts and the state groundwater and surface water protection programs of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).
2. Recognizing the 20 year commitment our country has had to eliminating point-source pollution, success in reducing the more complex and diverse NPS pollution will require similar time and resource commitments. However, management of this problem will require a different approach than that of point source pollution elimination because, unlike point source pollution, NPS pollution is primarily a weather-related phenomenon that can be managed, but not feasibly eliminated. NPS pollution is caused by the inadvertent discharge of pollutants from a wide variety of society's most essential activities.
3. The central focus of NPS management solutions should be a reasonable and voluntary approach based on incentives, education and technical assistance as the primary means of managing NPS pollution.
  - \*NPS pollution management programs should (a) emphasize the protection of water resources and state-designated water uses, including state-designated agricultural uses, and (b) recognize the importance and needs of individual agricultural producers and other landowners affected by the CWA.
  - \*This approach emphasizes the use of locally designed and applied, economically feasible, site-specific best management practices which do not infringe on private property rights. Implementation of these farm management options over a realistic time frame will further the goal of reaching or maintaining designated uses of water bodies.
  - \*It is inappropriate to link USDA commodity, conservation or disaster program payments to the success or failure of management programs for NPS pollution authorized under the CWA.
4. Current CWA language contains valuable provisions for NPS management embodied in Section 319. Although this NPS section has been historically underfunded and has been hampered by bureaucratic roadblocks, all states now have approved Section 319 assessments and approved management programs. Within the CWA, it is the preferable vehicle for management of NPS pollution, and changes which occur during CWA reauthorization should reinforce these existing NPS provisions.
  - \*The proper management of NPS pollution lies in state and local efforts. As such, states should continue to identify and resolve their priority NPS water problems through administration of Section 319 funds. With state oversight and approval, local organizations should continue to carry out these NPS programs. Agencies at the federal and state levels should harmonize objectives and coordinate funding for national and regional NPS management programs.

- \*State and local programs should provide for a mix of research, development, education and technical and financial assistance for both planning and implementing actions aimed at achieving state designated uses.
5. Management efforts funded by Section 319 of the CWA should be directed to priority areas based on scientific assessments that identify water bodies with impaired or threatened uses.
    - \*Priority, as determined by states, should be based on the magnitude of risk to human health, the protection of designated uses, and likelihood of further significant and unreasonable water quality degradation if no action is taken.
    - \*Strategies should be developed on a hydrologic unit, watershed-wide basis using an approach that includes the consideration of both surface and ground water quality.
    - \*Programs should focus on cost-effective, site-specific practices for individual operations with flexibility for implementation.
    - \*In order for Section 319 to work effectively for agriculture, USDA must play a lead role in the delivery of education and technical assistance at the state and local level.
  6. An effective and cost-efficient response to water quality problems requires accurate and reliable information on (a) the source, extent, and impact of NPS pollution, as well as (b) the effectiveness, utility and economic feasibility of conservation measures and best management practices.
    - \*Any Clean Water Act reauthorization should include a strong financial commitment to further research, monitoring and assessment projects.
    - \*Monitoring should include before and after sampling as well as frequent sampling during storm events and assessment of natural and historic loadings.
    - \*Scientific research and monitoring projects should follow protocols developed by the U.S. Geological Service and should be conducted on a watershed basis with local and state input.
    - \*Representative pilot projects aimed at achieving market based incentives on a watershed or regional level should be encouraged.
  7. The Clean Water Act Reauthorization should not directly or indirectly create a federal water quality law or program which supercedes, abrogates or impairs state water allocation systems and water rights.
  8. Section 319 management programs on federal lands should be developed and implemented by the specific agency statutorily charged with management of the lands in question, rather than by regulatory authorities independent of that agency.
  9. It is inappropriate for a reauthorization of the Clean Water Act to provide the authority for citizens suits against individuals participating in NPS management programs.

**Free Market Environmentalism**

WHEREAS, the political objectives of most of the influential national environmentalist organizations promote governmental control of natural resources through ownership or regulation as the only effective way to protect or enhance the environment; and

WHEREAS, the National Cattlemen's Association's (NCA) policy opposes such increased government control of natural resources because this is an inefficient and often counter-productive method of protecting natural resources which stymies sustained or increased economic productivity in the private sector; and

WHEREAS, NCA policy holds that the private sector, through private ownership, private enterprise, and individually controlled diverse management, offers the best arena for optimal, enduring, cost effective protection and enhancement of the environment; and

WHEREAS, Free Market Environmentalism is a policy that promotes environmental protection through the private action of individuals operating within a system of well-defined property rights, individual choice and responsibility, positive incentives, voluntary market exchange, and limited government,

THEREFORE BE IT RESOLVED, that the National Cattlemen's Association enthusiastically endorses Free Market Environmentalism as the most effective means of establishing environmental protection that emphasizes private ownership, and will undertake action based alliances with organizations that promote this policy.

**Clean Water Act Reauthorization**

WHEREAS, the current Clean Water Act provides broad federal authority through EPA impacting all segments of the cattle business; and

WHEREAS, the pending reauthorization of the CWA will directly focus on agricultural runoff and cattle production in particular as the alleged source of the majority of non point source (NPS) pollution of U.S. surface waters; and

WHEREAS, EPA does not have substantial data to factually verify this claim,

THEREFORE BE IT RESOLVED, that the National Cattlemen's Association (NCA) supports the following principles for the CWA's Goal, State Primacy, Water Quality Standards, Point Source Provisions, and Non Point Source Provisions:

**The Goal of the Clean Water Act**

The CWA should maintain its original focus on the control of discharges of pollutants to waters of the U.S. as is necessary to protect the classified uses of a particular water body which are designated by states. The purpose of the CWA should not be changed from current protection of state designated uses based on an analysis of use attainability to a broad goal of protection of "ecological integrity." Approaches that reach across multiple resources (air, soil, groundwater) for pollution prevention should not be included in reauthorization.

**State Primacy**

States should clearly retain primacy in designating water uses, establishing water quality standards, and in allocating quantities of water. Any reauthorization of CWA should clearly recognize state authority to protect rights to water established under state law.

**Water Quality Standards**

The standard of "fishable/swimmable" is inappropriate as a federal standard applied unilaterally in all states. EPA should not have the authority to force states to change use designations and standards of state waters. Maximum contaminant levels or effluent guidelines for alleged NPS pollutants such as sediment should not be developed by EPA. Sediment is naturally occurring and is often critical to the health and stability of ecosystems. The widely fluctuating movement of sediment into and within water courses is often determined by natural forces.

### Non Point Source Provisions

The current provisions on NPS in Section 319 of the CWA are fundamentally sound. They should be retained and given sufficient time and funding to operate before the current approach is eliminated in favor of more regulatory authority.

Non point source pollution is primarily a weather-related phenomenon that can be managed but not feasibly eliminated. Management of alleged NPS pollution will require a different approach than point source pollution.

The central focus of NPS management programs should be a practical, voluntary approach based on incentives, education, and technical assistance. This approach should emphasize the use of locally designed and applied, site-specific management practices implemented over a realistic time frame which do not infringe on private property rights.

Management programs authorized by Section 319 of the CWA should be targeted to priority areas based on scientific assessments that identify serious impairments capable of economically feasible remediation.

USDA should play the lead role in the delivery of education and technical assistance for these NPS programs designed and implemented at the state and local level.

CWA reauthorization should include a commitment to monitoring and assessment projects which identify a) the source, extent, and impacts of NPS pollution and b) the effectiveness and economic feasibility of conservation measures and management practices used to control NPS pollution.

Monitoring and research should follow the protocols developed by the U.S. Geological Service. Monitoring should include before and after sampling as well as sampling during storm events and assessment of natural and historic loadings.

Section 319 management programs on federal, state, and other publicly held lands should be developed and implemented by the specific agency statutorily charged with management of the lands in question, rather than by regulatory authorities independent of that agency.

### Point Source Provisions

Concentrated Animal Feeding Operations (CAFO's) of 1,000 head or greater in capacity and having the potential to discharge to "surface waters of the U.S." must obtain National Pollutant Discharge Elimination System (NPDES) permits under the CWA.

States shall be allowed to promulgate facility design criteria which meet the federal effluent guidelines (no discharge for a specified precipitation event). Facilities which do not discharge to "surface waters of the U.S." are not required to obtain NPDES permits or Stormwater Discharge permits. Permits, once obtained, shall be valid until considerable facility changes are made to warrant their revision.

In the event of a permitted discharge, no effluent toxicity testing shall be required, since facility design criteria reduces the toxicity of the "first flush" from these facilities. CWA regulations should recognize that unique, catastrophic precipitation events which cause a discharge do not constitute a violation of the CWA. Any artificially created wet areas which are the result of compliance with federal effluent guidelines should not be subjected to further regulation under the CWA or any other federal law.

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### Coastal Zone Management Act

WHEREAS, 1990 amendments to the Coastal Zone Management Act established a program implemented by EPA and the National Oceanic and Atmospheric Agency (NOAA) to control non-point source (NPS) pollution through enforceable "Management Measures" for multiple agricultural practices including grazing and confined livestock feeding; and

WHEREAS, these EPA "Management Measures" are enforceable in state programs for areas well beyond the legal coastal zones in all coastal states; and

WHEREAS, these "Management Measures" may be economically prohibitive for some producers and even if implemented may not result in diminishing runoff or improving water quality,

Therefore Be It Resolved, that the states confine implementation of these NPS control "Management Measures" to clearly targeted areas demonstrated to be a source of impairments to coastal water quality and demonstrated to be capable of improvement without economic hardship to individual producers.

**Wetlands: No Net Loss**

WHEREAS, the federal government current policy of "no net loss" of wetlands affects the use, value, and private property rights on millions of acres of privately owned agricultural land; and

WHEREAS, the "Federal Manual on Identifying and Delineating Jurisdictional Wetlands" as the federal government's official method of delineating wetlands is gravely flawed and leads to wetlands delineation of millions of acres of ranch and farm land which should not realistically be considered wetlands; and

WHEREAS, the major instruments of this federal policy are not authorized by federal law and have not been subject to public review through the formal rulemaking process required by the Administrative Procedures Act (APA); and

WHEREAS, the U.S. Army Corps of Engineers now through Section 404 of the Clean Water Act has the authority to regulate or outright prevent the normal, established use of ranch and farm land; and

WHEREAS, the U.S. Fish and Wildlife Service seeks to acquire thousands of acres of wetlands many of which are on ranch and farm land; and

WHEREAS, cattle grazing is a beneficial, maintenance use of wet areas and thereby protects natural wetland values,

THEREFORE BE IT RESOLVED, that the National Cattlemen's Association act to accomplish a change in the current federal wetlands policy by a statutorily codified definition of wetlands that stipulates the simultaneous actual presence of three criteria: hydric soils, hydrophytic vegetation, and surface inundation for a significant portion of the growing season of every year under normal precipitation and that excludes all man-made, created wet areas from any governmental authority.

BE IT FURTHER RESOLVED, that revisions in the Federal Manual that reflect this definition be subject to the full rulemaking procedures of the Administrative Procedures Act with hearings and a public comment period.

BE IT FURTHER RESOLVED, EPA and the Corps of Engineers issue in writing a formal specification by EPA and the Corps of Engineers of the "normal agricultural activity exemption" from Section 404 of the Clean Water Act as it pertains to pasture, range, and hay lands and such that it clearly exempts all normal, usual, established maintenance practices.

BE IT FURTHER RESOLVED, that all jurisdictional wetlands that are delineated include a scientific documentation of the exact environmental function and value of each wetland with a ranking of the relative importance, to include a minimal value category which is fully exempt from all governmental jurisdiction.

BE IT FURTHER RESOLVED, that legislation or regulations that ensure approval from one federal agency regarding wetlands would not be overruled or changed by other federal agencies.

BE IT FURTHER RESOLVED, that the federal agencies fully comply with Executive Order 12630 on Takings in all wetland policy, programs, and action by government.

BE IT FURTHER RESOLVED, that all federal policies, action and laws on wetlands be subject to state water laws and private water rights and all private property rights.

Impairment of Surface Waters<sup>1/</sup>Rivers (% Assessed is 35.9% of 1,800,066 miles)

	<u>Aq Sources</u>	<u>All Sources</u>
Impaired Miles	118,997	196,690
% of Impaired Mis.	60.5	100.0
% of Assessed Mis.	18.4	30.4
% of All Mis. <sup>2/</sup>	6.6	11.0

Lakes (% Assessed is 46.9% or 34,900,000 Acres)

	<u>Aq Sources</u>	<u>All Sources</u>
Impaired Acres	4,217,377	7,411,910
% of Impaired Acres	56.9	100.0
% of Assessed Acres	22.8	40.1
% of All Acres <sup>2/</sup>	10.7	18.8

Estuaries (% Assessed is 74.0% of 35,624 Sq. Mis.)

	<u>Aq Sources</u>	<u>All Sources</u>
Impaired Sq. Mis.	1,572	8,637
% of Assessed Sq. Mis.	18.2	100.0
% of Assessed Sq. Mis.	5.8	32.4
% of All Sq. Mis. <sup>2/</sup>	4.4	24.3

Great Lakes (7, Assessed is 94.0% of 5,169 Shoreline Miles)

	<u>Aq Sources</u>	<u>All Sources</u>
Impaired Shore Line Mis.	277	4,788
% of Impaired Shore Line Mis.	5.8	100.0
% of Assessed Shore Line Mis.	5.7	98.6
% of All Shore Line Mis. <sup>2/</sup>	5.4	92.6

<sup>1/</sup> U. S. Environmental Protection Agency, National Water Quality Inventory, March 1992 and The Quality of Our Nation's Waters: 1990, June 1992.

<sup>2/</sup> Assumes zero impairment of unassessed portions of surface waters. EPA reports: "States are generally constrained by diminishing resources and competing needs to monitor most often in those waters with known or suspected problems". Thus, impairment in unassessed water is likely to be much less, especially on that third of U.S. in federal ownership.

## NATIONAL CATTLEMEN'S ASSOCIATION WATER QUALITY INFORMATION PROJECT

### PURPOSE

Provide the cattle industry with an assessment of the scope and accuracy of existing information related to claim of the role of beef cattle production in non-point source pollution. Available information will be assessed in terms of the stated extent and nature of beef production impacts, and the locations of problem areas. Sources of management practices preferable for abatement of water quality problems will be identified. Effective participation in water quality management processes by state cattle industries will be encouraged, specifically in establishing water quality standards, state assessments, program implementation and monitoring.

### OBJECTIVES

- Provide summary analysis of:
  - 1) water quality assessment reports,
  - 2) state assessment, standard setting, confined animal permit, and NPS process,
  - 3) types and degree of problems on an EPA Regional basis.
- Describe agency structure, responsibilities and applicable programs relating to beef cattle water quality situations.
- Suggest a framework for state association and NCA involvement in water quality process and to share educational information resulting in a draft Cattleman's Environmental Management Guide.
- Provide information for the emerging NCA data base.

### APPROACH

Working through NCA headquarter offices (Washington, D.C.) identify key agency divisions, staff and relevant documents for the primary agencies - Environmental Protection Agency (EPA), USDA Soil Conservation Service (SCS), and Cooperative Extension Service (ES). Continue the identification of key staff, materials and approaches at the federal agency regional levels and State Land-Grant Universities.

Use three pilot states (California, Florida, Texas) to test an approach then select 12 additional representative states to conduct personnel contacts with:

- 1) *the state water quality agency* for their process for: setting water standards, issuing NPDES permits to confined animal facilities, NPS Assessments, and implementation plan.
  - 2) *State Beef Cattle Association(s)* for their involvement in state water quality processes and information/educational materials.
  - 3) *State USDA-SCS offices* for related programs and materials.
  - 4) *State Cooperative Extension Service* for related programs and materials.
- Conduct a survey of the above institutions for similar information in the remaining states.

### PRODUCTS

Reports and Information papers for NCA use. A draft outline of a Cattlemen's Environmental Management Guide.

### FUNDING AND STAFFING

Funding for this project is being provided through the Beef Checkoff funds for Industry Information. The project contractor is Jim Clawson, Extension Range Specialist, University of California, Davis with the assistance of selected beef cattle association staff and academics.

### CONTACTS

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**PROPOSED STUDY STATES (EPA Region)**  
New York (1), New Jersey (2), Pennsylvania (3), North Carolina (4), Kentucky (4), Florida (4), Wisconsin (5), Texas (6), Nebraska (7), Kansas (7), Colorado (8), Wyoming (8), Arizona (9), California (9), and Washington (10)



## Rangeland Watershed Program

*A Water Quality Education & Technical Assistance Program for California Rangelands*

# FACT SHEET

*U.C. Cooperative Extension and U.S.D.A. Soil Conservation Service*

No. 2

August 1991

### Rangeland Watershed Program

The Range Management Advisory Committee to the State Board of Forestry has identified water quality protection as a major rangeland issue and has assumed a lead role in presenting a program for developing and implementing a Water Quality Management Plan on private rangelands in California. The UC Cooperative Extension Service and USDA Soil Conservation Service have the responsibility for delivery of education, applied research and technical assistance programs that facilitate water quality management planning. Cooperative Extension and the Soil Conservation Service will jointly deliver this Rangeland Watershed Program. The goal of the Rangeland Watershed Program is to develop public understanding of proper rangeland watershed management, to inform rangeland owners and managers how clean water legislation affects private rangeland management and to facilitate development and implementation of a Rangeland Water Quality Management Plan in California.

#### Education Objectives

- Acquire, organize, and synthesize currently available and newly emerging information.
- Disseminate information using time-tested Extension education methods.
- Develop watershed management demonstration areas.
- Provide organizational and technical support to water quality management planning at the state, regional, and local levels.
- Deliver educational programs to expanded audiences—landowners, state and county agencies, resource professionals, and conservation organizations.

#### Applied Research Objectives

- Develop minimum watershed monitoring criteria to standardize parameters and methods, thus facilitating comparisons and interpretations between projects and locations.
- Conduct baseline monitoring of water quality and associated watershed parameters.
- Monitor the long-term effectiveness of management measures (BMPs) on demonstration watersheds and riparian areas.
- Validate erosion prediction models (USLE, MUSLE, WEPP) using monitoring data collected from demonstration watersheds.

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University of California and U.S. Department of Agriculture cooperating.

### Technical Assistance Objectives

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- Active participation in the Rangeland Water Quality Plan Development Task Force.
- Collection and analysis of soils and vegetation data to identify potential statewide water quality problems.
- Develop statewide Field Office Technical Guide procedures for writing and reviewing state level practice standards and specifications.
- Field office participation in workshops to develop local management measures (best management practices).
- Update the Field Office Technical Guide as a basis for management measures (best management practices).
- Conduct local Conservation Planning workshops to assist with planning and individual technical assistance.
- Support activities of Resource Conservation Districts addressing water quality management.

### Program Activities

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**Developing Management Measures:** The Soil Conservation Service will describe management measures (best management practices) using their existing technical guides. They will conduct a review of these management measures by appropriate agencies and landowners groups. Standards and specifications will be reviewed locally as part of the local water quality management planning process to insure ecological and economic feasibility.

**Education Program:** The Rangeland Watershed Program will develop fact sheets, news releases, training packages, and other media that will be used for staff training, landowner and public education programs, and public policy background information. Information packages will include policy and technical information to facilitate water quality management planning on rangeland watersheds and their associated streams and riparian areas.

**Demonstrations:** There are many watershed and riparian management projects throughout the state developed by various agencies and local groups. Cooperative Extension and the Soil Conservation Service are cooperators on several of these projects. New projects will be developed in response to local and regional priorities. These projects will be used to demonstrate rangeland watershed problems, solutions, and monitoring methods. The program will coordinate the flow of information and activities among the demonstration projects.

**Applied Research:** This program will develop research needs and pursue joint research with the Agricultural Experiment Station, Agricultural Research Service, and other agencies. Development and testing of rangeland watershed monitoring methods to establish baseline conditions and document changes due to management and natural phenomena has been identified as a research need. Development and testing of erosion prediction models for the purpose of disseminating information from local situations to a wider array of similar situations is an additional need.

### Program Contacts

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**Program Funding Sources:** This program has funding support through 1993. Sources of funding include the Renewable Resources Extension Act (USDA), State Water Resources Control Board, and the Environmental Protection Agency, University of California Division of Agriculture and Natural Resources and USDA Soil Conservation Service.



## Rangeland Watershed Program

*A Water Quality Education & Technical Assistance Program for California Rangelands*

### PROGRAM UPDATE

*U.C. Cooperative Extension and U.S.D.A. Soil Conservation Service*

November 1991

#### Program Introduction

This Program Update introduces you to a 5-year educational and technical assistance program conducted jointly by the University of California Cooperative Extension and the USDA Soil Conservation Service — **The Rangeland Watershed Program**. Recognizing that there are many efforts addressing watershed management in California, this program does not intend to duplicate existing efforts but rather be directed to rangeland watershed management on private lands with an emphasis on water quality management planning. We also recognize the need to involve other lands (forest, cropland, and urban) when dealing with watershed management and will coordinate with existing programs as appropriate in developing local water quality management plans. This program can provide a means of information flow among current watershed projects on rangelands that appears to be lacking at this time. Our first efforts are directed to making people aware of rangeland water quality issues and to existence of this program.

The Rangeland Watershed Program (Fact Sheet No. 2) is designed to support a broader statewide water quality management plan being developed by the Range Management Advisory Committee (Fact Sheet No. 1). The key points of this program are:

- It is a joint SCS and CE effort
- It is directed to privately owned rangelands
- It supports the Statewide Rangeland Water Quality Management Program
- It uses time-tested technical assistance, education and field research approaches:
  - Assists with identification of local rangeland water quality issues and solutions
  - Develops an approach to Best Management Practices
  - Prepares Educational materials
  - Conducts field days, workshops, demonstrations
  - Develops and tests monitoring methods

#### Program Support

Program activity has started by redirection of individual efforts of the Extension Range Specialists and the SCS State Range Conservationist along with a growing redirection of county and field staff time. While additional staff would allow for more rapid and extensive implementation of the program, budget and staff constraints suggest we have to be more efficient through this joint effort. However, there is a critical need identified for a statewide rangeland watershed hydrologist in Cooperative Extension to assist with the networking among hydrologists within the University of California and elsewhere to complement the vegetation management expertise we now have.

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University of California and U.S. Department of Agriculture cooperating.

Supplemental program funding support comes from a 2-year project agreement—"Rangeland Water Quality Education and Technology Assistance"—with the State Water Resources Control Board and allocations from the Renewable Resources Extension Act funds.

### Program Plans

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To carry out the program over the next two years the following tasks are stated in the agreement with the State Water Resources Control Board. These are the plans at this point of time which allow for modification as needs arise.

#### *Acquire and Organize Information*

A major task is the acquisition and organization of information relating to rangeland watershed and water quality management from agencies, universities, demonstration projects, and personal contacts throughout the U.S. The information will be organized into files and cataloged in a computer data base to ease access to specific information. The location of the files will be in the Agronomy and Range Science Department, UC Davis.

#### *CE and SCS Training*

Internal training is directed to keep the field staff informed of program developments, their role in program implementation, and technical proficiency in watershed management and planning processes. The general topics to be presented are as follows:

March 1992	Program update and implementation at Red Bluff, Santa Rosa, Fresno, Riverside, and Davis
May/June	Field workshops on conservation plans and use of BMPs in Ukiah, Fresno, and Susanville areas
Fall 1992	Watershed and water quality research and demonstrations in California
Spring 1993	Riparian Management and Monitoring
Fall 1993	Watershed Hydrology and Monitoring

#### *Workshops, Field Days, and Short Courses*

Local workshops and field days for landowners and other interest groups will be delivered by CE Specialists, CE farm advisors, and SCS Conservationists for the purpose of: 1) recognizing the water quality problems and their solutions, and 2) supporting the development and implementation of local, regional, and state water quality management plans. These educational efforts will include aspects of nonpoint source pollution assessments, healthy watersheds/rangelands, conservation (including water quality management) planning, the development and use of Best Management Practices, and dealing with watershed level planning problems. Ranch Planning and Analysis and Grazing Management Short Courses will continue to be delivered at local levels, often involving two or three counties.

#### *Educational Materials*

**Fact Sheets:** The fact sheets will be a major part of the educational materials. They will be short, easy to read treatments on a number of topics directed at explanations of laws, regulations, and terms; technical aspects of watershed management; and approaches to water quality management plans. We are interested in

### Proposed Water Quality Management Plan Sections

#### Program Phases

**Development** — Organizing efforts which will terminate with the submission of a State Rangeland Water Quality Management Plan to the State Water Resources Control Board (18 months to 2 years).

**Implementation** — Agencies, organizations, groups, and individuals at state, regional, and local levels carry out water quality management efforts.

1. Status of Water Quality and Soil Stability on California Rangelands
2. Statutory Authorities, Mandates and Programs for Water Quality and Watershed Protection
3. Local (watershed) Water Quality Management Planning Guidelines
4. Sources of Assistance
5. Development of Management Measures (BMPs)
6. State Agency Water Quality Responsibilities
7. Monitoring Program and Practice Performance

#### Program Activities

##### *At the Local Level*

- Identify local water quality problems and causes
- Facilitate Coordinated Resource Management Programs
- Access to assistance and funds for local projects
- Refine management measures for local application
- Assist landowners in developing management plans
- Provide for localized monitoring

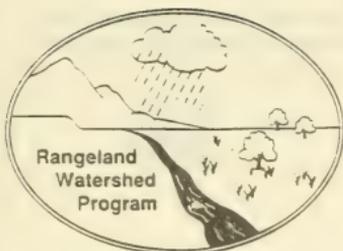
##### *At the State Level*

- Assess and prioritize quality problems and risks
- Provide program administration and local assistance
- Provide program monitoring, evaluation, and reporting
- Draft State Plan

#### Program Task Force

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## Rangeland Watershed Program

*A Water Quality Education & Technical Assistance Program for California Rangelands*

# FACT SHEET

*U.C. Cooperative Extension and U.S.D.A. Soil Conservation Service*

No. 1

August 1991

### California Rangeland Water Quality Management Program

#### Range Management Advisory Committee Priority

In response to the Federal Water Pollution Control Act (Clean Water Act) and the California Porter-Cologne Act mandating control of nonpoint source pollution, the Range Management Advisory Committee to the State Board of Forestry has identified water quality protection as a major rangeland issue and has assumed a lead role in presenting a program for developing and implementing a Water Quality Management Plan on private rangelands in California.

#### Program Purpose

To maintain and improve the quality and beneficial uses of surface water as it passes through and out of California's private rangelands.

#### Program Objectives

Develop and implement a water quality management plan that complies with the Clean Water Act requirements and includes:

- voluntary implementation
- local management decisions
- public involvement
- using existing technology
- cooperation with landowner assistance agencies
- a strong education and technical assistance support
- monitoring of adoption, performance of management measures, and program goals

#### Background

Rangeland is the most extensive land-type in California, more than 40 million acres of the state's 101 million acres with about one-half (20 million acres) in private ownership (but representing 90% of the forage base for the state's range livestock). Eight of California's 12 major drainage basins are dominated by vegetation-types that are commonly grazed. The precipitation that falls on California rangeland represents only about 15% of the total surface water source (7.9 million acre feet), but the location of rangelands between the forested areas and major river systems means that almost all surface water in California passes through rangeland. In addition, two-thirds of the major reservoirs are located on rangeland. The quality of California's surface waters is, therefore, greatly influenced by the hydrology of rangelands. Erosion assessments in California estimate erosion averages of 3.3 tons/ac/yr from sheet and rill erosion on one-third of private rangelands, while streambank erosion is another potential source of sediment on over 9,000 miles of streambanks.

acquiring, organizing, synthesizing, and distributing information for a better understanding of this issue. Please feel free to contact us on possible topics. The proposed group titles give you an idea of information to be covered by the fact sheets:

1. Water Quality and Nonpoint Source Pollution Regulations
2. Water Quality Management Planning
3. Riparian Area Management
4. Research and Demonstration Updates
5. Watershed Hydrology
6. Watershed Monitoring
7. Riparian Area Monitoring
8. Range and Ranch Management

**Visual Media:** Materials supporting the information in the fact sheets and field programs will be developed for use by Cooperative Extension and the Soil Conservation Service in the implementation of this program.

**Program Updates:** Periodic "updates" of program activities will be distributed to all interested as the major means of keeping you informed.

**News Releases:** News releases and news stories will be developed as part of the public education efforts of the program and be distributed to a network of newspapers and interest publications.

### Program Staff

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### Program Addresses

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To keep our mailing list at a reasonable size, we ask that you share this material with others in your organization. However, we will add anyone really interested in maintaining contact with us. If you are not on our mailing list, please let us know and we will make the addition.



# U.S. Public Interest Research Group

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**TESTIMONY OF  
CAROLYN HARTMANN  
STAFF ATTORNEY  
U.S. PUBLIC INTEREST RESEARCH GROUP**

**ON  
CLEAN WATER ACT REAUTHORIZATION**

**BEFORE THE  
SUBCOMMITTEE ON WATER RESOURCES  
OF THE  
HOUSE COMMITTEE ON PUBLIC WORKS AND  
TRANSPORTATION**

**APRIL 22, 1993**

CLEAN WATER ACT REAUTHORIZATION  
APRIL 22, 1993

I.) INTRODUCTION

II.) STRENGTHENING ENFORCEMENT OF THE CLEAN WATER ACT

A.) THE PROBLEM: CLEAN WATER ENFORCEMENT  
IS "WEAK AND SPORADIC"

B.) TOUGHER ENFORCEMENT IS WORKING IN NEW JERSEY

C.) THE SOLUTIONS:

1. IMPROVE GOVERNMENT ACCOUNTABILITY
  - a) SET MANDATORY MINIMUM PENALTIES
  - b) PROHIBIT PROFITING FROM POLLUTING
  - c) IMPROVE INSPECTIONS AND DISCHARGE REPORTING
  - d) LIMIT ISSUANCE OF PERMITS TO "BAD ACTORS"
2. STRENGTHEN CITIZEN SUIT PROVISIONS
  - a) CITIZENS SHOULD BE ABLE TO SUE FOR PAST VIOLATIONS
  - b) DEFINITIONS OF STANDING SHOULD BE CLARIFIED
3. INCREASE CITIZEN'S RIGHT TO KNOW THROUGH WATER POSTINGS

III.) PREVENTING TOXIC POLLUTION

A.) THE PROBLEM: CLEAN WATER ACT FAILS  
TO PREVENT POLLUTION

B.) THE SOLUTIONS

1. PHASEOUT THE MOST HAZARDOUS SUBSTANCES
2. REDUCE THE USE OF ALL OTHER TOXIC CHEMICALS
  - a. REQUIRE POLLUTION PREVENTION PLANS
  - b. REQUIRE THAT POLLUTION PREVENTION BE TAKEN INTO CONSIDERATION WHEN SETTING PERMIT LIMITS

## I.) INTRODUCTION

My name is Carolyn Hartmann. I am a staff attorney with the U.S. Public Interest Research Group (U.S.PIRG). U.S.PIRG is the national lobbying office for state PIRGs in over 30 states. PIRGs are nonpartisan, nonprofit environmental and consumer advocacy groups with over 1 million members nationwide.

For over two decades, State PIRGs have fought to clean our waterways. PIRGs have played a key role in helping to pass pollution prevention and toxics use reduction laws in Massachusetts, New Jersey, Vermont and Oregon. We have filed over 60 Clean Water citizen suits and helped to pass the country's strongest Clean Water enforcement law in New Jersey.

We urge Congress to bring some of these lessons learned at the state level up to the national level and incorporate them into the federal Clean Water Act. Although my written testimony covers a number of these programs, I will focus my statements today on our recommendations for strengthening the enforcement provisions of the Clean Water Act.

## II.) STRENGTHENING ENFORCEMENT OF THE CLEAN WATER ACT

### A. THE PROBLEM: CLEAN WATER ENFORCEMENT IS "WEAK AND SPORADIC"

Strong enforcement of the Clean Water Act is fundamental to the success of the program. Unfortunately, studies conducted by the General Accounting Office, the Inspector General's office, states and environmental groups demonstrate that discharge violations are routinely ignored even for serious and chronic violators. In addition, economic benefits are often not taken into consideration when penalties for violations are determined.

This lax enforcement of the Clean Water Act greatly reduces incentives to comply with the law. Richard Hembra, Director of Environmental Protection Issues at the U.S. General Accounting Office, testified before this subcommittee during the last congress. In describing GAO's findings regarding enforcement of the Clean Water Act, Mr. Hembra said the following:

"Our work...clearly indicates that enforcement of our Nation's water quality laws continues to be weak and sporadic. Despite serious and longstanding violations, most enforcement actions are informal slaps on the wrist rather than formal actions, such as administrative fines and penalties. Further, even in the relatively few cases where penalties have been assessed, they are often significantly reduced or dropped without adequate documentation." (May 14, 1991)

Mr. Hembra concluded by stating:

"the ability of our Nation's environmental laws to protect health and the environment depends greatly on effective enforcement programs. Without enforcement, dischargers have little incentive to incur the cost of pollution control. At the same time industrial discharges that do abide by program requirements are unfairly placed at a competitive disadvantage with those who choose not to invest in pollution control equipment and practices."

John Martin, Inspector General U.S. Environmental Protection Agency testified before the Senate Environmental Protection Subcommittee last congress (July 18,1991) on enforcement under the Clean Water Act. The Inspector General's office conducted a

series of audits to examine the effectiveness of the NPDES permit enforcement program and "concluded that enforcement actions taken by the EPA and the States were frequently ineffective in returning major municipal and industrial violators to compliance." Some of the examples of serious and chronic violators from the IG's audit are startling:

"...a wood preserving operation in Virginia had a history of environmental problems that caused surface and groundwater contamination. Although five enforcement orders were issued for violations of its NPDES permits, not one penalty was assessed in 13 years of operation. Eventually, this facility was listed as a Superfund site, but it was not until two years later that its discharge permit was finally revoked."

"...a municipality paid only \$7,800 for numerous NPDES permit violations over several years. This included \$3,200 for two instances in which more than 1600 fish are killed because of the violations. For exceeding a discharge limitation, this municipality was fined \$1,000; we estimated the penalty could have been \$390,000."

This is not to say that the maximum penalty is always in order, but that the penalty must reflect the severity of the violation and create an incentive to comply with the law. The IG's audits found that in 46 of the 69 NPDES cases evaluated, the penalty assessments were not sufficient to recover the economic benefit gained by noncompliance. The Inspector General concluded that "[w]hen penalties are reduced to below what it would cost to comply with the environmental laws, they encourage rather than deter noncompliance. Small fines and lengthy time limits to achieve compliance promote a pay-to-pollute mentality."

The Clean Water Act enforcement program should be strengthened to create greater incentives to comply with the law by setting mandatory minimum penalties for serious and chronic violators, prohibiting profits from polluting, strengthening the reporting and inspection requirements, and strengthening the citizen suit provisions in the law.

## B.) TOUGHER ENFORCEMENT IS WORKING IN NEW JERSEY

In May 1990 Governor Jim Florio signed into law the New Jersey Clean Water Enforcement Act. U.S. PIRG believes that this law provides a model for improved enforcement of the federal Clean Water Act and is working with Congressman Frank Pallone (D-NJ) to introduce legislation modeled on the New Jersey law.

The New Jersey Clean Water Enforcement Act requires---

- The New Jersey Department of Environmental Protection and Energy (NJDEPE) to increase inspections at permitted facilities and assess mandatory minimum penalties for certain violations; and
- Permittees to submit monthly discharge monitoring reports.

Just last month, the NJDEPE released their "Second Annual Report of the Clean Water Enforcement Act." The Executive Summary of this report is attached at Appendix I of this testimony.

The NJDEPE report found the following:

Inspections of facilities show that more facilities are attaining compliance. The number of facilities which inspections found "unacceptable" decreased from 792 in 1991 to 505 in 1992.

The average penalty assessed in each formal enforcement action has decreased. Because the Act requires the NJDEPE to conduct more frequent inspections of facilities operated by "significant noncompliers," the agency finds violations more quickly and takes timely action. This results in reduced average penalties.

Compliance with the self-reporting requirements is improving. The number of violations for failure to submit discharge monitoring reports (DMR) decreased from 59 in the last six months of 1991 to 38 for all of 1992.

Permit actions by the NJDEPE increased by nearly 140% over 1991. Permit actions, which include issuing new permits, renewing permits, and modifying or terminating permits, went from 265 in 1991 to 630 in 1992. New permits more than doubled---162 in 1992 compared with 73 in 1991---and permit modifications more than quadrupled---317 in 1992 compared with 75 in 1991.

## C.) THE SOLUTIONS

Enforcement of the Clean Water Act should be strengthened to improve government accountability and remove current obstacles to citizen suits.

### 1.) IMPROVE GOVERNMENT ACCOUNTABILITY

#### a.) SET MANDATORY MINIMUM PENALTIES

Noncompliance must be addressed quickly rather than waiting for patterns of chronic violation to develop. Uniform minimum responses to violations by regulators will decrease average penalties assessed and bring violators into compliance more rapidly. Uniform minimum penalties which do not favor some discharge methods over others, also reduces incentives to shift discharges from surface or ground water or sewage treatment facilities, for example.

To address the issue of chronic significant violations of the Clean Water Act we recommend that state programs be required to establish mandatory minimum penalties for "serious violations" of and for "significant noncompliance" with the Act based on current U.S. EPA and New Jersey's Clean Water Enforcement Act definitions.

Congress should amend the Clean Water Act to require that a mandatory minimum penalty of \$1,000 per violation be assessed for "serious violations" which includes--

- (1) discharge violations of a toxic substance that is 20% or more over the permitted limit or
- (2) discharge violations of a nontoxic substance that is at least 40% over the permitted limit.

In addition, the Clean Water Act should be amended to require that any facility determined to be in "significant noncompliance" be assessed a mandatory minimum penalty of \$5,000 per day per violation. We recommend that the definition of "significant noncompliance" be based on EPA's current criteria<sup>1</sup> and would apply if any of the following occur:

- 1) Two serious violations of any pollutant during any 6-month period;
- 2) Four exceedances of a monthly average limit for any pollutant, by any amount, in any 6-month period; or
- 3) Two instances of failure to submit Discharge Monitoring Reporting within any 6-month period.

#### **b.) PROHIBIT PROFITS FROM POLLUTING**

The existing Clean Water Act allows "economic benefits" to be taken into consideration in assessing penalties. Unfortunately, this authority is greatly underutilized. In June 1991, the GAO released findings from their review of the use of economic benefits in penalty assessments which found that "in nearly two out of three penalty cases concluded in fiscal year 1990 in EPA's air, water, hazardous waste, and toxic substances programs, there was no evidence that economic benefits had been calculated or assessed."<sup>2</sup>

To recoup economic benefits and create disincentives to violate the law, we recommend that penalty assessments for violations by direct and indirect dischargers proceed in two steps:

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<sup>1</sup>. The criteria used by EPA to define "significant noncompliance" are: 1) two exceedances of a monthly average limit in any 6-month period that meet the following criteria: 40% over limit for conventional pollutants and nontoxic metals, 20% over limit for toxic pollutants; or 2) four exceedances of a monthly average limit in any amount in any 6-month period.

<sup>2</sup>. Environmental Enforcement: Penalties May Not Recover Economic Benefits Gained by Violators, GAO/RCED-91-166, June 1991.

i) Any economic gain enjoyed by the violator should be determined. The penalty should not be reduced below the portion of the penalty that represents economic gain.

ii) The punitive portion of the penalty should be determined but should not be reduced through compromise by more than 25%.

### c.) IMPROVE DISCHARGE REPORTING AND INSPECTIONS

Access to accurate and consistent reporting is fundamental to the success of the Clean Water Act's permitting and enforcement programs. Without accurate monitoring and reporting of discharges, protection of waterways is impossible.

Currently, there are great discrepancies between the National Pollutant Discharge Elimination System (NPDES) for direct dischargers to surface waters and the National Pretreatment Program requirements for industrial users of publicly owned sewage treatment plants (POTWs). Monitoring and reporting requirements are often less stringent for indirect discharges to POTWs. This creates incentives to discharge to POTWs. In addition, public access to both types of reporting is poor.

NPDES permit holders file their monitoring reports with the states. Filing of these reports occurs months after they are submitted, and are filed in district offices rather than in one central location. Indirect dischargers to POTWs generally file monitoring reports with the relevant municipality, and the data is not compiled in a national computerized database.

The lack of adequate information on discharges remains a problem for regulators and citizens. All dischargers to surface waters, ground waters, and publicly owned treatment works should be required to increase frequency of data reporting. This would serve to increase timeliness of the data and prevent violators from masking the severity of their violations through averaging of data points over long periods of time.

To improve access to discharge reporting, Congress should amend the Clean Water Act to require--

(1) all facilities discharging to ground waters, surface waters or treatment works facilities to submit discharge monitoring reports (DMRs) on a monthly basis;

- (2) DMRs be signed by the highest ranking official at the plant with day to day operational responsibilities;
- (3) all Significant Industrial Users (SIUs) of POTWs should be required to file their monitoring reports with the states and with EPA regional offices, and states should be required to input this data into the EPA Permit Compliance System; and
- (4) EPA to make compliance data on EPA's computerized Permit Compliance System available to the public by computer telecommunication, similar to the existing citizen access to Toxics Release Inventory data under the Emergency Planning and Community Right to Know Act.

Inspections of permitted facilities tend to be superficial "walk throughs" that do not require independent sampling to verify the accuracy of discharge data submitted by the permittee. In some instances, facilities receiving permits for the first time are not even inspected before the permit becomes effective. The reliance of the Clean Water Act on self-reported information makes verification an important component of successful implementation.

Congress should amend the Clean Water Act to require that---

- (1) Permitted facilities be inspected once a year and that the inspection should, at a minimum, include a review of housekeeping measures, sampling techniques, maintenance records and independent sampling of the permittee's effluent;
- (2) If a facility is in "significant noncompliance of the Act or is renewing a permit, an inspection should be conducted within 3 months; and
- (3) If a facility is being permitted for the first time, an inspection should be conducted prior to the effective date of the permit.

New Jersey has implemented this improved inspection program and have credited it with bringing compliance up and average penalties down because the most serious violations are caught earlier.

**(d) LIMIT ISSUANCE OF PERMITS TO "BAD ACTORS"**

"Significant noncompliers," as defined in the discussion on mandatory minimum penalties, should be considered "bad actors" under the Clean Water Act and as such, Congress should prohibit issuance of new permits to any person who has been identified as a "significant noncomplier" until the Administrator or the States in which the violations occur determine that the conditions giving rise to such violations have been corrected.

**2.) REMOVE CURRENT OBSTACLES TO CITIZEN SUITS**

Citizen suits are a tried and true method of bringing polluters into compliance with the Clean Water Act. The 1972 Clean Water Act included authority for citizens to sue polluters, thereby, recognizing that the U.S.EPA and states might be unable or unwilling to aggressively pursue all violators.

The U.S. Department of Justice's Statistical Report for Fiscal Year 1992 acknowledges the "dedication, hard work and effort put forth by the private citizen groups and others who sue non-government polluters for violating the nation's environmental laws." The report goes on to say---

These groups perform a valuable public service by joining the Federal Government in seeking compliance with a host of environmental statutes, particularly the Clean Water Act. Over the past 4 fiscal years, they have collectively recovered for the United States Treasury over \$9 million in penalties and interest.

The penalties recovered are listed Table I.

While the existing citizen suit provisions have allowed significant enforcement activity, they contain a number of obstacles to citizen enforcement that should be removed.

**a.) CITIZENS SHOULD BE ABLE TO SUE FOR PAST VIOLATIONS**

A 1987 Supreme Court case, Chesapeake Bay Foundation v. Gwaltney of Smithfield, Ltd., 484 U.S.49 (1987), seriously weakened the deterrent effect of civil actions.

Table I - from the U.S. Department of Justice Statistical Report FY 1992

## CITIZEN ENFORCEMENT SUITS

The Division gratefully acknowledges the dedication, hard work and effort put forth by the private citizen groups and others who sue non-government polluters for violating the nation's environmental laws. These groups perform a valuable public service by joining the Federal Government in seeking compliance with a host of environmental statutes, particularly the Clean Water Act. Over the past 4 fiscal years, they have collectively recovered for the United States Treasury over \$9 million in penalties and interest. These groups are recognized below with our thanks and appreciation.

Public Interest Research Group of New Jersey	\$5,915,161.97
Sierra Club Legal Defense Fund	1,184,214.00
Atlantic States Legal Foundation	1,039,133.25
Natural Resources Defense Council (NRDC)	645,500.00
Chesapeake Bay Foundation	299,822.00
Public Interest Research Group of Massachusetts	122,650.00
Public Interest Research Group of Ohio	100,000.00
State of Missouri	100,000.00
Westchester Fish, Game & Wildlife Association	60,000.00
Friends of the Earth	27,013.70
Hudson River Fishermen's Association	25,000.00
Public Interest Research Group of Illinois State	25,000.00
Save the Bay (Rhode Island)	22,450.00
Pennsylvania Environmental Defense Foundation	20,000.00
Ohio Environmental Council	15,000.00
Connecticut Fund for the Environment	10,000.00
Village of Kildeer	10,000.00
Braxton Citizens for a Better Environment	8,000.00
Arkansas Wildlife Federation	5,000.00
State Line Fishing & Hunting Club	5,000.00
Tennessee Environmental Council	5,000.00
National Environmental Foundation	2,000.00
American Littoral Society	1,000.00
City of New York	1,000.00
State of Rhode Island	1,000.00
<b>TOTAL:</b>	<b>\$9,648,944.92</b>

Section 505(a) (1) of the Clean Water Act provides that any citizen may commence a civil action against any person "alleged to be in violation of" the Act. The Supreme Court, in Gwaltney, interpreted those words to mean that citizens cannot sue for "wholly past" violations, i.e., a case in which all violations occur before the complaint is filed and citizens can not allege in good faith that violations may be continuing.

The result of Gwaltney is that companies have an incentive to delay compliance until citizens notify them of intent to sue. The company then has 60 days to get itself into compliance and avoid all penalties and keep any economic benefit from the violation. This greatly undermines the deterrent effect of citizen suits.

The Congress amended the Clean Air Act in 1990 to allow citizens to commence action against any person "who is alleged to have violated (if there is evidence that the alleged violation has been repeated) or to be in violation" of the Act.<sup>3</sup> We urge Congress to make similar amendments to the Clean Water Act. Congressman Pallone's Clean Water Enforcement Act would amend the Clean Water Act to allow citizens to sue for past violations and remedy the effects of Gwaltney.<sup>4</sup>

#### **b.) CITIZEN SUITS SHOULD NOT BE PRECLUDED BY STATE ENFORCEMENT ACTIONS**

Since 1972, the Clean Water Act has barred citizen suits if they would duplicate earlier-filed judicial enforcement proceedings by the state or the EPA. In 1987, Congress gave EPA new authority to assess administrative civil penalties and extended the

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<sup>3</sup>. 1990 Clean Air Act Amendments, section 304(a).

<sup>4</sup>. Congressman Pallone's Clean Water Enforcement Act would amend Section 505(a) to authorize suits against persons "alleged to have violated, or to be in violation" of the Act. In addition, Section 505(f)(6) which allows citizen suits only for violations of a permit "which is in effect under this Act" would be changed to include a permit "which has been, or is, in effect under the Act. Section 505(b)(1)(A) which currently requires citizen's to give 60-days' advance notice of suit to the alleged violator, EPA and the State in which the alleged violation "occurs" would be changed to the State in which the alleged violation "has occurred or occurs." And Section 505(g) which provides that the "term 'citizen' means a person or person having interest which is or may be adversely affected" would be changed to include an interest "which has been, is, or may be adversely affected."

preclusive effect to these EPA actions.<sup>5</sup> In addition, Congress extended the preclusive effect to state administrative actions "under a State law comparable to this subsection."<sup>6</sup> The latter provision can bar both citizen and EPA prosecutions.

The question of whether a citizen suit is precluded by a government action depends on (1) the timing of the citizen suit, (2) whether the government is diligently prosecuting an action, and (3) whether the state law is comparable to the federal law.

For government judicial enforcement actions, citizens are not precluded if they wait for 60 days after the sending of the notice letter and file their complaint in court before the government.<sup>7</sup> However, for government administrative actions, citizens are not precluded if they send their notice letter or file the complaint before the administrative proceeding is commenced.

The Clean Water Act allows duplicative EPA or citizen suits, along with state administrative actions, to be prosecuted simultaneously where the state has failed to diligently prosecute an action or where state law is not comparable to the federal Clean Water Act, regardless of when the state action was filed. [section 309(g)(6)(A)]

Recent court decisions have overbroadly interpreted the ability of state actions to preclude citizen suits under the Clean Water Act.<sup>8</sup> These decisions severely undermine both federal and citizen enforcement and encourage violators to negotiate private, sweetheart deals with state governments that may impose inadequate penalties.

EPA determined that "these decisions disregard the plain language of the Clean Water Act, relevant legislative history, and the contemporaneous EPA interpretation of"

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<sup>5</sup>. 33 U.S.C. sec. 1319(g)(6)(A)(i)

<sup>6</sup>. 33 U.S.C. sec. 1319(g)(6)(A)(ii).

<sup>7</sup>. 33 U.S.C. sec.1365(b)(1)(B).

<sup>8</sup>. See North and South Rivers Watershed Association v. Scituate, 949 F.2d 552 (1st Cir. 1991); Connecticut Coastal Fisherman's Ass'n v. Remington Arms Company, Inc., 777 F.Supp 173 (D. Conn.1991); ASLF v. Eastman Kodak Corp., 933 F.2d 124 (2nd Cir. 1991); New York Coastal Fishermen's Ass'n v. New York City Department of Sanitation, 772 F.Supp. 162 (S.D.NY 1991).

the law.<sup>9</sup> EPA recommended that the Clean Water Act should be amended to clarify or delete the provision by which some State enforcement actions bar the imposition of a Federal civil judicial penalty. We agree with this recommendation.

Congress should amend the Clean Water Act to delete the provision by which some State enforcement actions bar citizen suits.<sup>10</sup>

### c.) DEFINITION OF CITIZEN STANDING SHOULD BE CLARIFIED

The definition of "citizen standing" determines who has the authority to sue violators. Congress intended to confer to citizens standing to the limits of the Constitution. Section 505(g) of the Clean Water Act provides that the "term 'citizen' means a person or persons having an interest which is or may be adversely affected."

The court in PIRG v. Powell Duffryn Terminals [913 F.2nd 64 (3rd Cir. 1990), Cert. denied, 111S.Ct 1018(1991)] held that plaintiffs must show that defendants discharged a pollutant which "causes or contributes to the kinds of injuries alleged by the plaintiffs." [931 F2nd at 72-73] This standard not only places an improper burden on plaintiffs to demonstrate harm to water quality but is also contrary to both congressional intent and Supreme Court decisions.

The Congress decided in 1972 that government regulators "need not search for a precise link between pollution and water quality." [S.Rep.No. 414, 92nd Cong.,1st Sess. 7 (1971)] Congress determined that all pollution is harmful, no one has a right to pollute and pollution is temporarily permissible only because of technological limitations. Citizens should not have to meet a test for standing that is more stringent than the test for holding polluters liable for permit violations.

The Supreme Court held in Valley Forge Christian College v. Americans United for Separation of Church and State [454 U.S.464, 472 (1982)] that, under Article III of the Constitution, a plaintiff must show (1) injury in fact (2) which is fairly traceable to

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<sup>9</sup>. U.S.EPA, Discussion Paper: Analysis of Possible Revisions to the Clean Water Act, March 27, 1992.

<sup>10</sup>. The Pallone Clean Water Enforcement bill would strike section 309(g)(6)(A)(ii) and amend section 309(g)(6)(A)(iii) by striking the "Secretary, or the State" and inserting "or the Secretary" and "or comparable State law, as the case may be."

defendant's illegal conduct and (3) which is likely to be redressed by a favorable decision. Courts have found that the "injury in fact" requirement has been met by evidence that persons use the water downstream from the defendant's discharge, or would use the water if it were not polluted. In addition, courts have held that the "fairly traceable" requirement does not mean that plaintiffs must show to a scientific certainty that defendant's pollution caused plaintiff's injuries.

To clarify Congressional intent, Congress should add the following "finding" to the statute:

Congress finds that a discharge which results in a violation of this Act or a regulation, standard, limitation, requirement, or order issued pursuant to this Act interferes with the restoration and maintenance of the chemical, physical, and biological integrity of the water system into which the discharge occurs, including any downstream waters, and, therefore, harms users of such water system.

In addition, Congress should amend the definition of "citizen" in Section 505(g) of the Clean Water Act by adding the following language:

...including a person who uses the water system (or associated natural resources) into which the discharge occurs or who would use that system if it were less polluted, or was otherwise adversely affected by the discharge."

**d. COURTS SHOULD HAVE GREATER FLEXIBILITY IN DETERMINING THE DISPOSITION OF PENALTIES AND SETTLEMENT FUNDS.**

The Department of Justice has objected to numerous settlements on the ground that payments have been made to environmental projects rather than the U.S. Treasury. Congress intended there to be greater flexibility in determining the disposition of penalties and settlement funds. The conference report on the 1987 amendments to the Act states that these mitigation projects "preserve the punitive nature of enforcement actions while putting the funds collected to use on behalf of environmental protection." [H. Rep. No. 1004, 99th Cong., 2nd Sess.139 (1986)]

The Clean Water Act should be amended to clarify the intent of Congress. The following language should be added to Section 309(d) and 505(a): "The court may, in the court's discretion, order that a civil penalty be used for carrying out mitigation projects

which are consistent with this Act and which enhance the public health or the environment."

### 3.) INCREASE CITIZEN'S RIGHT-TO-KNOW THROUGH WATER POSTINGS

Citizens have a right to know when significant threats to their health or environment are present in their communities. The public should have access to information regarding the discharge of toxins and other pollutants into the waterways in which they swim and fish. One-third of the nation's remaining productive shellfish waters are closed on any given day because of pollution.<sup>11</sup> In addition, in 1991, U.S. ocean and bay beaches were closed or advisories issued against swimming on more than 2,000 occasions in the coastal states that monitor beach water quality. High levels of bacteria--primarily from raw human sewage---are responsible for the overwhelming majority of these closures and advisories.<sup>12</sup>

Despite these facts, there are no federal requirements that the public be notified when water quality standards are violated. Nor are there uniform requirements for determining the nature and extent of fish and shellfish bans, advisories and consumption restrictions. Congress should amend the Clean Water Act to---

- (1) Require public postings at waterways that do not meet applicable water quality standards or are subject to a fishing or shellfish ban, advisory or consumption restriction;
- (2) Require NDPES permit holders to maintain clearly visible signs indicating that the facility discharges into waterways and other information helpful for gaining greater information regarding those discharges;
- (3) Require POTWs to include, in customers' quarterly bills, information regarding their permit including a list of their violations over the preceding 12-months; and
- (4) Require the EPA to develop uniform standards for posting bodies of water and requirements for determining fishing and shellfish advisories.

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<sup>11</sup>. Stemming the Tide: Conservation of Coastal Fish Habitat in the United States, summary of a National Symposium on Coastal Fish Habitat Conservation, Baltimore Maryland (March 7-9, 1991).

<sup>12</sup>. Testing the Waters: A National Perspective on Beach Closings, NRDC, Kailen Mooney and Ashley McLain, July 1992.

### III.) PREVENTING TOXIC POLLUTION

#### **A.) THE PROBLEM: CLEAN WATER ACT FAILS TO PREVENT POLLUTION**

The 1972 Clean Water Act set a goal of eliminating the discharge of pollutants by 1985, and a policy of prohibiting the discharge of toxic pollutants in toxic amounts. The current Clean Water Act is far from reaching these goals.

- According to the EPA, 30 percent of our rivers and more than 50 percent of our streams are not safe for swimming, fishing or other uses.
- 50% of our states have issued health advisories urging only limited consumption of fish from their waters due to mercury contamination.
- U.S. industries report sending an estimated 448 million pounds of toxic chemicals down drainpipes and sewers each year.

These problems are due, in part, to the Clean Water Act's failure to include requirements and programs for preventing pollution at the source and reducing or eliminating the use of toxic chemicals. The current permitting process allows companies to shift toxics from one environmental media to another (from water to air, for example) rather than encouraging companies to reduce their use of toxic chemicals. Congress should incorporate pollution prevention into the framework of the Clean Water Act.

#### **B.) THE SOLUTIONS**

##### **1. PHASEOUT THE MOST HAZARDOUS SUBSTANCES**

Some substances are so hazardous to human health and the environment, even in infinitesimally small quantities, that they should be phased out (or sunsetted) over time and replaced with safer alternatives. The current NPDES system is based on the assumption that waterways are capable of absorbing certain quantities of toxic materials. This simply does not hold true for some substances.

Toxic substances that persist in the environment over long periods time, for example, should be targets for sunseting. In addition, toxic substances that bioaccumulate or increase in the body tissue of organisms as we move up the food chain should be targets for sunseting.

Congress should amend the Clean Water Act to set up a program for targeting sunset candidates. Toxicity, persistence, and ability to bioaccumulate should be used as criteria for identifying the sunset candidates. The identification of sunset candidates should be separate from the establishment of the sunset process.

## 2. REDUCE THE USE OF ALL OTHER TOXIC CHEMICALS

### a. REQUIRE POLLUTION PREVENTION PLANS

All NPDES permittees who currently report on their toxic releases and hazardous waste byproducts under the Emergency Planning and Community Right to Know Act should be required to develop pollution prevention plans as a condition of obtaining a new or undated permit. A number of states, including Massachusetts, New Jersey, Oregon, Indiana, and Vermont have already started to require large toxic chemical users to develop pollution prevention plans.

A 1992 survey of companies' pollution prevention activities conducted by the research organization<sup>13</sup>, INFORM, found the following:

- One-quarter of the source reduction projects required no capital investment and just under half required investments of \$100,000 or less.
- Nearly two-thirds of the projects were completed in 6 months or less including research and development.
- Over 60 percent of the projects had payback periods of six months or less.

Despite these promising findings, INFORM also found that the prevailing corporate focus continues to be on traditional end-of-pipe controls for toxic pollution. By requiring companies to examine their production processes and look for pollution prevention options, the Clean Water Act can start to shift this focus. Pollution prevention planning combined with public reporting on toxic chemical production and use should be incorporated into the Clean Water Act's permitting process.

The pollution prevention planning program should require facilities to complete

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<sup>13</sup>. Environmental Dividends: Cutting More Chemical Wastes, INFORM, Mark Dorfman, Warren Muir, Catherine Miller, 1992.

the following as a condition of receiving a NPDES permit:

- 1) Identify their production processes;
- 2) Determine the "flow" of chemicals on both a facility-wide and production process level;
- 3) Review pollution prevention options;
- 4) Set goals for reducing the use of toxic chemicals; and
- 5) Make their goals, certain toxic chemical use data and a summary of their plans available to the public.

**b. REQUIRE THAT POLLUTION PREVENTION BE TAKEN INTO CONSIDERATION WHEN SETTING PERMIT LIMITS**

To date, the EPA has failed to make effective use of effluent guidelines and pretreatment standards as a mechanism for promoting pollution prevention. To shift the focus of the permitting process toward prevention and prevent cross media pollution shifting, Congress should amend the Clean Water Act to require EPA to consider pollution prevention options when setting effluent guidelines and pretreatment standards.

**Second Annual Report  
of the  
Clean Water Enforcement Act**

Pursuant to NJSA 58:10A-14.1

March 1993

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Environmental Protection and Energy

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## EXECUTIVE SUMMARY

New Jersey's Water Pollution Control Act ("WPCA") is intended to restore, enhance and maintain the integrity of New Jersey's waters. Under the WPCA, the Department of Environmental Protection and Energy ("DEPE" or "the department") administers the New Jersey Pollutant Discharge Elimination System ("NJPDDES") to regulate discharges of pollutants to these waters. The United States Environmental Protection Agency ("EPA") has approved the NJPDDES program and thereby delegated to New Jersey the authority to implement the water pollution permit system required under the Federal Clean Water Act.

In 1990, Governor Florio signed substantial amendments to the WPCA, known as the Clean Water Enforcement Act ("CWEA"). The CWEA strengthened enforcement of New Jersey's water pollution control and prevention program by requiring the department to assess mandatory minimum penalties for certain violations, increasing the accountability of NJPDDES permit holders and operators of publicly-owned treatment works, and providing for greater citizen participation in water pollution prevention and enforcement activities. The requirements of the CWEA which are relevant to this report became operative on July 1, 1991.

This executive summary presents the highlights of the Department's implementation of the WPCA in 1992 and the plans for further improvements in 1993 and beyond.

### *Enforcement*

The department seeks to improve New Jersey's water quality by encouraging increased compliance with the water pollution control laws. The department's enforcement efforts have several facets designed to serve that goal, such as inspecting and monitoring dischargers; working with dischargers to identify and resolve potential and actual compliance problems; taking enforcement action when those efforts reveal violations of the law; and frequently negotiating resolutions of enforcement actions so that the permittees agree to upgrade their treatment works and processes to prevent future violations. The following findings show that these efforts are bearing fruit in the form of greater compliance.

#### *Inspections of facilities show that more facilities are attaining compliance.*

The 1992 data concerning inspections show a trend toward compliance by more facilities. The department performed 2,919 inspections of facilities in 1992, compared with 1,406 in the last six months of 1991 (as noted above, the CWEA did not become operative until July 1, 1991). Following an inspection, a facility receives an "acceptable" or "conditionally acceptable" rating if it has valid permits for all of the discharges which require permits; it performs the monitoring required under the permits; it submits completed discharge monitoring reports ("DMRs"); no serious violations have occurred; it is not considered a "significant noncomplier" as a result of its record of recent

violations; and a licensed operator operates the facility's treatment works. The number of facilities which the inspections found "unacceptable" decreased significantly in 1992. In 1991, 792 facilities earned "unacceptable" ratings, compared with 505 facilities in 1992.

Compliance with the self-reporting requirements which are the heart of the NJPDES permit system is improving.

The NJPDES permit system is based upon each permittee's own timely and accurate reporting of compliance with permits through the submission of discharge monitoring reports ("DMRs"). Compliance with DMR requirements is therefore central to compliance with the WPCA.

In 1992, permittees moved toward more substantial compliance with the DMR requirements. The number of violations for failure to submit DMRs decreased from 59 in the last six months of 1991 to 38 for all of 1992. The bulk of the DMR violations in 1992 consisted of omissions in otherwise complete DMRs, rather than failures to submit DMRs at all.

In addition, during 1992 a trend toward better compliance with all aspects of the DMR requirements began to develop. The number of DMR-related violations dropped from 301 in the first half of 1991 to 107 in the second half of the year.

The average penalty assessed in each formal enforcement action has decreased.

The department undertook 339 penalty assessment actions in calendar year 1992 compared with 233 in calendar year 1991. At the same time that the department increased the number of penalty assessments, the total dollar amount of the penalty assessments decreased from \$23.7 million in 1991 to \$17. million in 1992. Accordingly the average penalty assessed in each formal enforcement action decreased. The decrease continues a trend reported in the 1991 CWEA Annual Report.

The continuing decrease in penalty assessments reflects the department's application of the statutory criteria established in the CWEA, detailed in revised penalty regulations. The revised penalty regulations promulgated in August 1991 establish the uniform penalty policy required under the CWEA. In implementing that uniform penalty policy, the department employs penalty assessment procedures which require fact-specific determinations of penalty amounts. Through these measures, the department works to assess penalties which are rational, tailored to the facts of particular violations, and legally sustainable.

The department expects the application of this approach to penalty assessment to affect penalty collections in two ways. The decrease in penalty assessments tends to decrease total penalty collections. At the same time, however, the percentage of penalt

assessments which the department actually collects should increase; as penalty assessments are viewed as more legally sustainable, the incentive to contest the assessment decreases, and a larger percentage of those penalties which are contested will be upheld on appeal. The net effect of these two influences in 1992 was to decrease penalty collections to \$10.8 million, compared with \$13.1 million in 1991.

*The efforts of the Attorney General and the County Prosecutors continued to contribute to effective enforcement.*

The Attorney General and the County Prosecutors are responsible for criminal enforcement of the WPCA. 1992 saw the resolution of several criminal actions filed under the WPCA. Most prominent, Ciba-Geigy Corporation and two of its officials entered into a plea agreement under which the company agreed to pay \$3.5 million in fines and the officials were each fined \$25,000.

*Permits*

In addition to an effective enforcement policy an efficient and thorough permit process is also essential to achieving the WPCA goal of improved water quality. The following findings describe improvements in the NJPDES permit process that serve this goal.

*The department increased its total number of permit actions by nearly 140% over 1991.*

In 1992 the department substantially increased the pace of its actions on NJPDES permits. The total number of permit actions (issuing new permits; renewing, modifying or terminating existing permits; and issuing discharge allocation certificates for new discharges or major expansions of municipal facilities) increased by nearly 140% over 1991, from 265 in 1991 to 630 in 1992. This increase included more than twice as many new permits (162 in 1992 compared with 73 in 1991) and more than four times as many permit modifications (317 in 1992 compared with 75 in 1991).

The department expects environmental benefits to result from the substantial increase in the number of new, modified and renewed permits issued. When action on a permit is completed, the permittee becomes subject to the most current standards available. Incorporating the most current standards into the permit generally results in the permit becoming more protective of water quality. In contrast, when a permit renewal or modification is delayed, the permittee may be operating in accordance with less stringent standards adopted several years earlier.

The department expects the increase in permit actions to bring economic benefits as well. Issuing more permits provides the permittees with greater certainty concerning

regulatory requirements, and enables them to anticipate expenditures that they will need to undertake to improve water quality.

The department is developing an extensive restructuring of the NJPDES permit system.

The current NJPDES permit regulations have remained largely unchanged since they became effective in 1981. The regulations have not kept pace with developments in the Federal and State statutes, rules, policies and procedures affecting the issuance of permits. To address this problem, the department made substantial progress during 1992 in readying a substantial overhaul of the regulations governing the NJPDES permitting system.

The primary goal of the restructuring is to enable the department to address water quality issues comprehensively, with particular concentration upon issues which affect water quality over an entire watershed or basin. The primary means to this end is a watershed approach to permitting (rather than the existing site-specific approach) which will enable the department to focus attention upon specific pollutants in each water body and better evaluate the impact of control measures. On February 1, 1993, the department requested public comments regarding the policies, technical issues and administrative reforms that this restructuring entails.

Another goal of the restructuring of the NJPDES rules is to improve the efficiency of the permit application and permit issuance procedures. Some of the changes upon which the department has requested public comment include the following:

1. Allowing permit applicants to submit their applications in the form of draft permits to be reviewed and revised by the department. This change eliminates one step from the permit process in which the department prepares a draft permit based upon a traditional permit application;
2. Expanding the scope of changes to existing permits which can be accomplished through minor modifications;
3. Providing for automatic permit renewal when a new permit review would provide no environmental benefit;
4. Allowing concurrent review and processing of water quality management plan amendments and NJPDES permit applications; and
5. Increasing the use of general permits and permits by rule, instead of individual permits for each applicant.

The department eliminated duplicative NJPDES permits for 87 permittees.

Twenty-three delegated local agencies in New Jersey operate municipal treatment works under pretreatment programs approved by the department. Under these pretreatment programs, the delegated local agencies regulate discharges to their treatment works.

In December 1992 the department adopted amendments to the NJPDES rules to comply with the mandates of CWEA and the Federal pretreatment regulations. One important goal of those amendments was to eliminate the duplication of permitting and enforcement efforts between the department and the delegated local agencies. The CWEA granted the delegated local agencies enforcement powers equivalent to those of the department; the department therefore determined that it was unnecessary to require industries with permits issued by delegated local agencies to obtain permits from the department as well.

As a result of this rule change, 87 permittees had their NJPDES permits terminated and no longer pay fees to the department for those permits. In addition, eliminating the duplicative permits enabled the department to concentrate its permitting and enforcement efforts more efficiently and more effectively in those areas in which there was no duplication of effort.

*Delegated Local Agencies*

A significantly smaller proportion of the violations reported by delegated local agencies were serious violations.

The delegated local agencies have reported information showing that they are continuing to perform compliance monitoring and inspections of their permittees actively and in a highly visible manner. The delegated local agencies reported a total number of violations in 1992 which was proportional to the number of violations they reported in the last six months of 1991. However, a significantly smaller proportion of the 1992 effluent violations qualified as "serious violations." The percentage of effluent violations which were serious violations decreased from 50.5% in 1991 to 41.4% in 1992.

*Water Quality Assessment*

The department will analyze the effects of permitted discharges upon water quality.

In its first eighteen months implementing the CWEA, the department focused upon the permitting, enforcement, criminal and fiscal aspects of the law. To evaluate how those efforts have affected water quality, in 1993 the department is commencing a study of water quality both upstream and downstream of selected discharge sites. The

study will enable the department to evaluate the effect of those selected discharges upon water quality. The study will encompass both surface waters and ground waters. The results of the study will assist the department in gauging the effectiveness of its entire NJPDES program and in planning future initiatives.

#### *Use of Penalty Revenues*

The funding of the NJPDES permit program has been the subject of ongoing discussion and debate. In July 1992, DEPE Commissioner Weiner convened a task force to evaluate the system under which NJPDES fees are assessed, with a view toward making that system more fair and rational. Former Senator Laurence Weiss chairs the task force, which includes representatives of the Chemical Industry Council, the Association of Environmental Authorities, local governments and other interested parties. The department will continue to engage in dialogues with Senator Weiss and others in an effort to keep improving the NJPDES program.

#### *CWEA penalty revenues contributed substantially toward the cost of the NJPDES program.*

The NJPDES program is funded primarily from fees paid by permittees. However, the CWEA provides for penalty revenues to be used exclusively for enforcement and implementation of the WPCA, except when otherwise specifically provided by law. Penalty revenues applied to enforce and implement the WPCA reduce the amount which must be raised through fees, dollar for dollar. The result is a reduction in the portion of the program costs funded by those permittees who comply with the law, and a shift of a substantial portion of the cost to permittees who do not attain compliance.

As a result of the application of penalty revenues, there will be no increase in the portion of NJPDES permit program costs funded with fees in the year ending June 30, 1993. For the majority of NJPDES permittees, 1993 fees have been reduced, with the average reduction amounting to five percent.

As noted above, the department expects penalty revenues to continue decreasing as compliance with the WPCA increases. For this reason the department cautions against relying upon penalty collections to continue providing this level of funding toward the permit program over the long term.

The report which follows this Executive Summary presents detailed information under the following subject headings: Enforcement, Permitting, Delegated Local Agencies, Criminal Actions, Fiscal, and Water Quality Assessment. The report also includes an Introduction which outlines the relevant requirements of the WPCA and the CWEA.

SIERRA  
CLUB



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**POISON WATER, TOXIC HARBORS: RESTORING  
AMERICA'S FAITH IN CLEAN WATER**

**STATEMENT OF BRETT D. HULSEY**

**SIERRA CLUB GREAT LAKES PROGRAM DIRECTOR**

**APRIL 22, 1993**

**ON THE NEED FOR A COMPREHENSIVE PROGRAM TO  
CLEAN UP CONTAMINATED SEDIMENTS AND STOP TOXIC DUMPING  
TO RESTORE AMERICA'S RIVERS, WATERSHEDS AND THE GREAT LAKES  
BEFORE THE SUBCOMMITTEE ON WATER RESOURCES  
HOUSE PUBLIC WORKS COMMITTEE  
CHAired BY THE HONORABLE DOUGLAS APPLEGATE**

**ON BEHALF OF THE SIERRA CLUB, CITIZENS FOR A BETTER ENVIRONMENT,  
COAST ALLIANCE, CONTAMINATED SEDIMENTS WORK GROUP,  
GREAT LAKES UNITED, U.S. PUBLIC INTEREST RESEARCH GROUP,  
NATURAL RESOURCES DEFENSE COUNCIL,  
THE LAKE MICHIGAN FEDERATION,  
AND THE LAKE SUPERIOR ALLIANCE**

*"When we try to pick out anything by itself, we find it hitched to everything else in the universe." John Muir*  
National Headquarters: 730 Polk Street, San Francisco, California 94109 (415) 776-2211

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I would like to thank the committee and the chairman for holding this hearing and for leading the effort to clean up the nation's waters.

My name is Brett Hulsey and I am the Sierra Club's Midwest Representative and direct its Great Lakes Program. I am testifying on behalf of the Sierra Club, the Lake Michigan Federation, Citizens for a Better Environment, Great Lakes United, Natural Resources Defense Council, the Coast Alliance, the Lake Superior Alliance, and U.S. PIRG to urge you to enact a comprehensive program to clean up contaminated sediments that line our harbors and stop additional toxic pollution from sullyng our waters.

This is of top importance to all Americans and especially the millions who belong to these organizations. The Sierra Club's 100,000 members in the Great Lakes region and 600,000 members in U.S. and Canada have made restoring the country's waters and the Great Lakes -- that is making water safe for mothers to drink, and fish and wildlife that depend on water safe to eat -- a national campaign.

The need for this is clear to those of us living in Wisconsin and witnessing the human tragedy in Milwaukee. In the past few weeks, thousands have been sick from a water-born infection spread in the public drinking water. 800,000 people were not able to safely drink the public water. Several elderly and AIDS patients have died or are critically ill from the contaminated water. Schools and businesses were forced to close. The public in Wisconsin and much of the country have lost faith in the safety of our water delivery system and we are looking to Congress to restore the nation's waters.

We must address water safety issues in the upcoming Clean Water Act reauthorization to insure that America's waters are safe for drinking, swimming, and fishing.

I will use the Great Lakes example to illustrate this need because one in ten Americans drink the water and because these are good examples of problems seen everywhere. But the problem of toxic pollution and sediment contamination are everywhere.

Thanks to the work of this committee, Congress, cities, and the states, we have made progress to clean up the Great Lakes. Efforts to cut phosphate releases have brought Lake Erie back to life and the lake now supports a thriving fishing and tourist economy. Tourism is now the second largest sector of the economy in Ohio and many Great Lakes states.

Yet this economy is threatened by continued contamination. Nitrate pollution and persistent toxics levels for PCBs and dioxin are increasing in several lakes. Table I-2 shows the persistent toxic levels of PCBs in coho salmon in all the Great Lakes. These levels are over 70 times EPA's 1/100,000 cancer risk level and may cause

thousands of cancer cases each year.

According to the EPA National Water Quality Inventory, 1990 Report to Congress, 67.7% or 3,288 miles of Great Lakes shoreline do not support Clean Water Act designated uses. Only 1.8% or 85 miles fully support Clean Water Act designated uses for fishing and swimming. None of the shoreline in Wisconsin, Illinois, Indiana, Michigan, and Ohio supports full Clean Water Act designations.

#### Designated Use Support in Great Lakes

State	Great Lake Shore Miles	Shore Miles Assessed		Miles Fully Supporting	Miles Threatened	Miles Partially Supporting	Miles Not Supporting	
		Total	Percent Evaluated					Percent Monitored
Illinois	63	63	0	100	0	54	9	0
Indiana	43	43	0	100	—	—	43	—
Michigan	3,288	3,288	0	100	0	—	—	3,288
New York	577	577	100	0	85	15	477	0
Ohio	236	236	—	—	0	—	236	0
Wisconsin	650	650	100	0	0	0	650	0
Totals	4,857	4,857			85	69	1,415	3,288
Percent of Assessed Waters					1.8%	1.4%	29.1%	67.7%

— Not reported.

Source: 1990 State Section 305(b) reports.

*EPA National Water Quality Inventory, 1990 Report to Congress, March 1992, Page 38.*

Current water, air, and waste laws allow toxic chemical discharge into the nation's waters and the Great Lakes ecosystem which cause these impairments. These laws - especially the Clean Water Act -- allow polluters to dilute and mix toxics in the air and water. The only way to make the Great Lakes safe for drinking, fishing, and swimming is to phase out the release of these toxic substances into the U.S. water and the Great Lakes to achieve Zero Discharge.

**According to the U.S. General Accounting Office, U.S. Great Lakes polluters were LEGALLY permitted to dump 7.3 million gallons of oil, 89,000 pounds of lead, 1,935 pounds of PCBs, and 933 pounds of mercury into the Lakes in 1990.**

*Water Pollution, Observation on EPA's Efforts to Clean Up the Great Lakes, U.S. General Accounting Office, Testimony of Richard L. Hembra, October 1991, page 6.*

To put this in perspective, the Exxon Valdez illegally dumped 11 million gallons of oil into Alaska waters and was fined about \$1 billion. Each year, U.S. industries dump two-thirds that amount into the Great Lakes water supply for 25 million Americans.

This is a national problem also. Conservative estimates taken from the 1990 Toxic Release Inventory (TRI) data (which do not cover all industrial sources) showed that industry dumped nearly 200 million pounds of toxic and hazardous material into U.S. waterways. In addition, manufacturing industries dumped 448 million pounds of toxic materials, and hazardous waste facilities washed another 254 million pounds into public sewers in 1990.

Scientific evidence shows that widespread, low-level exposure to some persistent toxic chemicals like PCBs and mercury:

- threatens newborn children with premature birth, low birth weights, and impaired learning loss of up to 5 IQ points;
- will cause 38,255 cancers to fishers and non-fishers in the Great Lakes basin, according to EPA Risk Analysis of 26 Environmental Problems, Draft Working Documents, page 4;
- causes birth defects, sterility, and population decline in fish and wildlife like bald eagles, lake trout, cormorants, and mink;
- makes lake trout, salmon, and other species unsafe to eat in all the Great Lakes because they can cause health problems and increase cancer risks; and
- remain in the lake ecosystem, concentrating in and damaging humans and wildlife for decades.

Current U.S. and state environmental laws allow polluters to dump toxic chemicals into aquatic ecosystems which poison the food web. According to a recent International Joint Commission study, Great Lakes states now use a hodgepodge of regulations that allow dumping of persistent poisons. For example, a plant that could only dump 4 pounds of mercury into Wisconsin waters, would be allowed to dump 55 pounds in Ohio, 99 pounds of mercury in Illinois, and 323 pounds in New York.

	<u>WISCONSIN</u>	<u>OHIO</u>	<u>ILLINOIS</u>	<u>NEW YORK</u>
MERCURY PLANT CAN DUMP (IN POUNDS)	4	55	99	323

*The Control of Discharge of Toxic Pollutants into the Great Lakes and their Tributaries: Development of Benchmarks, Jeffrey A. Foran, PhD., International Joint Commission, page 39.*

Clearly, this jeopardizes more than the water quality, fish eaters, and wildlife. It puts industries of the clean states at an unfair competitive disadvantage. States compete for industry by jeopardizing their water supply rather than strengthening their

workforce. We are promoting uniform, water quality standards that protect jobs, people, fish, and wildlife.

This is indicated by the ubiquitous fish advisory throughout the country. As you can see from Figure 6-1 in the appendix, the Great Lakes states have the greatest number of fish advisories.

### **PHASE OUT PERSISTENT TOXICS TO MAKE THE WATER SAFE**

To virtually eliminate persistent toxics from the nation's water and Great Lakes, we must phase out persistent toxics releases as called for in the original Clean Water Act and the Great Lakes Water Quality Agreement with Canada.

We urge you to adopt the recommendations of the Clean Water Network, supported by the Sierra Club, and all the groups listed above. Specifically, we urge Congress to reauthorize the Clean Water Act (CWA) to:

- Sunset the most harmful toxics by giving the EPA Administrator a phase out procedure under the NPDES program to ban chemicals that pose significant human, wildlife, or aquatic health hazards because they persist and/or bioaccumulate;
- Make pollution prevention part of the CWA by improving existing programs like TRI and Clean Water Act 402 permit applications and building on successful state programs like the New Jersey or Massachusetts models;
- Strengthen CWA effluent guidelines and pretreatment provisions to control cross-media pollution;
- Require that EPA select the "Best Available Technology" to minimize pollution from all medias, not just water;
- Prohibit the use of mixing zones in Sections 301 and 303 for all but conventional pollutants;
- Require that effluent limits and monitoring be expressed in total mass for each toxic emitted, not just concentration;
- Require consistent state water quality standards for toxic pollutants that protect groups that consume high quantities of fish like Native Americans, urban fishers, Bald Eagles, and mink;
- Require the EPA Administrator set fees to cover effluent guidelines development costs, and all permit costs of the EPA or delegated states;

- Designate Lake Superior an Outstanding Natural Resource Water to move toward the Zero Discharge Demonstration area called for in the Great Lakes Water Quality Agreement and recommended by the International Joint Commission;
- Increase right-to-know provisions to allow the public more information on toxic discharges for more chemicals, facilities, and types of uses; and
- Create a program to aid worker transitions for the provisions that affect the workforce.

We urge the committee to study the approach taken in EPA's new Great Lakes Water Quality Guidance to create a level playing field. This Guidance is called for in Section 118 of the 1987 amendments to the Water Pollution Control Act and the 1990 Great Lakes Critical Programs Act.

The document recently released by EPA would require states, in their next triennial review, to:

- Establish minimum water quality standards to protect human, wildlife, and fish health;
- Target the worst pollutants -- those that bioaccumulate the most like PCBs and Dioxin -- in people, fish, and wildlife;
- Prohibit the use of mixing zones for these chemicals of concern;
- Include provisions to keep clean waters, like Lake Superior, clean; and
- Protect inland rivers and lakes, in addition to the Great Lakes.

#### **CLEAN UP CONTAMINATED SEDIMENTS THAT MAKE UP TO 75% OF THE TOXICS**

Contaminated sediments -- the toxic muck that settles to the bottom of our rivers, lakes, and harbors -- is a huge national problem. EPA has concluded that it is likely that every major water body in the U.S. has moderate to severe sediments contamination. This issue is also an economic one, since the contamination often makes it difficult to dredge harbors and maintain shipping as we are seeing in ports like New York/ New Jersey.

The 60 million tons of dredge material that are ocean dumped from these harbors and rivers each year pose a significant challenge to environmentalists and port operators. For an idea of the extent of sediment contamination on the marine coasts, please see the attached list. Table 6-5 shows a list of these sites. Note that Ohio leads the

nation with 193 sites clogged with toxics like arsenic, cadmium, and lead.

Contaminated sediments account for 75% of the PCBs going into Lake Michigan, according to a recent National Wildlife Federation study. They are also the main source of fish contamination. According to the EPA National Water Quality Inventory, 1988 Report to Congress:

**"The main reason for these fishing restrictions is contamination of sediments by toxic chemicals such as priority organics that are, in turn, passed along to macroinvertebrates and fish." (page 35)**

**In the 1990 Report to Congress, EPA said: "...landfills and contaminated sediments are the leading sources impairing the Great Lakes." (page 39)**

There is no clearer example of the national need for this program than in the Great Lakes. Toxic muck clogs all but one of our areas of concern and stifles economic development in many. The Port of Toledo may be forced to close if the U.S. Army Corps of Engineers does not cooperate with the Ohio and U.S. EPA to end the dumping of contaminated dredge spoil in Lake Erie near Toledo and Oregon, Ohio water intakes. The Corps insists that this sediment is not polluted, but the Port of Toledo and all the environmental agencies feel that it is.

To help solve this problem, EPA plans to release draft criteria for five sediment contaminants this summer, but clearly the progress is too slow. With current staff and funding, the EPA will not have sediment criteria for all the IJC Critical Pollutants List until the middle of the next century. The public will not accept this slow response to our worst contamination problem.

We have several successful programs to address Great Lakes sediment pollution, like the Assessment and Remediation of Contaminated Sediments (ARCS) Program, set up under Section 118 of the 1987 Clean Water Act Amendments and the Great Lakes Critical Programs Act. These provide key demonstration programs and deadlines to test technologies and complete the Remedial Action Plans (RAP).

As a member of the ARCS Citizen Work Group, I can report some progress on this program -- five pilot treatments were tested last summer with some promising results. In the laboratory, over 10 technologies were tested. ARCS also did five in-depth contaminant assessments from Buffalo, Ashtabula, Saginaw, Indiana Harbor, and Sheboygan harbors. But these plans and tests are only that. We need a concrete program to clean up these 27 toxic Great Lakes hotspots and many others in ports around the country.

The Clean Water Act reauthorization presents a perfect opportunity to make additional progress in the Lakes and make the fish safe to eat. Over the past three years, Great

Lakes and coastal advocates have worked with the ports, EPA, and Army Corps of Engineers to draw up a national program to deal with these underwater toxic sites.

The National Contaminated Sediments Working Group, made up of the Sierra Club, Coast Alliance, Great Lakes United, NRDC, National Wildlife Federation, and 200 other labor and sports groups, has a six-point plan to deal with contaminated sediments:

We urge Congress to instruct the EPA and Army Corps of Engineers to:

1. Develop a national program with deadlines and funding to measure and clean up toxic sediments with strong and practical sediment quality criteria in a timely fashion so that communities can identify and control toxic sediments in their area;
2. Use technologies developed by EPA's ARCS and SITES programs to clean up sites in the Great Lakes toxic harbors and add at least three additional marine sites for assessment and testing new technologies in critical areas like New York/New Jersey harbors and others;
3. Make pollution prevention measures a condition to receive a permit to dispose of contaminated sediments and include pollution prevention measures in other Clean Water Act programs to reduce further sediment contamination;
4. Develop a phase-out period for open water dumping of contaminated sediments in sensitive areas like Lake Superior as called for by the International Joint Commission;
5. Strengthen and enact the Metzenbaum Great Lakes Sediment Control Act, S. 75, to improve sediment management in the Great Lakes; and
6. Create a funding mechanism to pay for sediment management and clean-up.

## CONCLUSION

In conclusion, this year's Clean Water Act reauthorization gives us the opportunity to stop additional persistent toxics from entering the waters of the United States and to clean up the current toxic hotspots. We urge this committee to be bold and meet the challenge to make this happen.

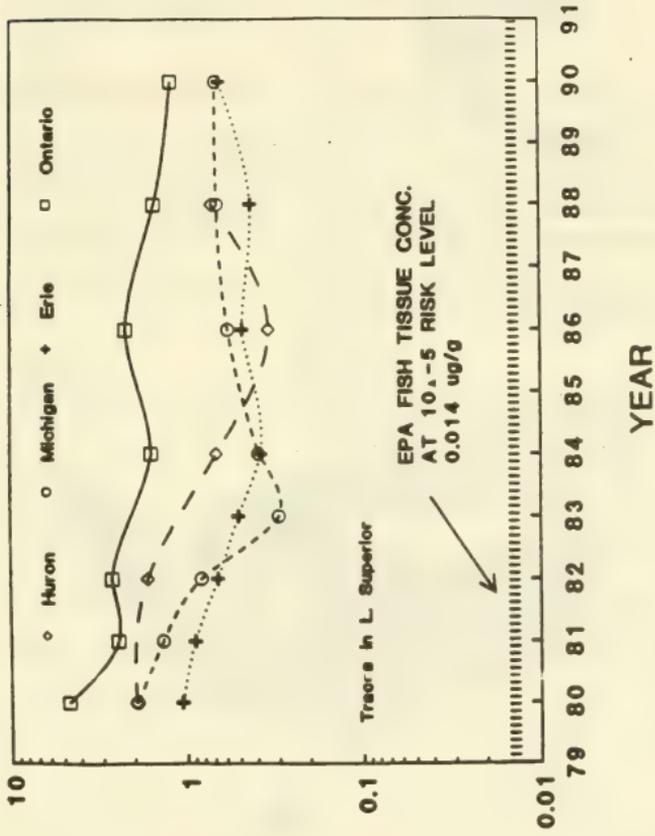
We are especially concerned that you:

- Protect women and children from toxic chemicals that accumulate in fish and cause birth defects;

- Restore the toxic harbors of the nation;
- Protect people who eat the most Great Lakes fish, like sport anglers, Native Americans, and others who fish for their food;
- Protect fish and wildlife from all chemicals that cause birth defects and deformities; and
- Keep high-quality waters like Lake Superior clean.

If we use these principles to guide our Clean Water Act reauthorization, we can restore faith in the nation's water. Thank you.

## APPENDIX AND TABLES

PCB CONCENTRATION  $\mu\text{g/g}$ Figure I-2: PCB concentration in coho salmon ( $\mu\text{g/g}$ ).

Source: DeVault et al., 1988; DeVault, 1993b.

Great Lakes Water Quality Guidance (Official) Prohibition Copy, March 31, 1993



This is taken from EPA National Water Quality Inventory, 1990 Report to Congress, page 96

Table 6-5. Sediment Contamination Reported by States

State	Number of Sites	Contaminants Identified
Alaska	1	Aromatic hydrocarbons
Arizona	6	Pesticides, metals (boron, chromium, selenium), radiochemicals
California	1	Mercury
Connecticut	6	Lead, polychlorinated biphenyls (PCBs), organic chemicals, and other metals
Delaware	2	Metals
DC	—	Lead, cadmium, zinc, chlordane, DDT
Florida	—	—
Hawaii	1	Arsenic
Illinois	—	Heavy metals, DDT, PCBs, heptachlor epoxide
Indiana	8	Metals, polynuclear aromatic hydrocarbons (PAHs), cyanide, other organics
Iowa	1	PCBs
Kentucky	1	PCBs
Louisiana	7	Priority organics, creosote, metals, oil and grease, PCBs
Maine	7	Dimethyl formamide, toluene, trichloroethane, chlorinated solvents, tris (2,3-dibromopropyl) phosphate, PCBs, copper, cadmium
Maryland	—	Nickel, zinc, PAHs, non-DDT chlorinated pesticides, pesticides, DDT, PCBs and other metals
Massachusetts	13	Metals, priority organics, oil and grease
Michigan	13	Mercury, alkylated lead, PCBs, dioxin, benzo(a)pyrene, hexachlorobenzene (HCB), DDT, dieldrin, toxaphene, mirex
Minnesota	1	Mercury, PCBs, coal tars
Nevada	7	Mercury and other metals
New York	21	Priority organics, metals, pesticides
Ohio	193	Arsenic, cadmium, chromium, copper, lead, zinc
Oklahoma	10	Mercury, lead, zinc, chlordane, hydrocarbons, PCBs
Oregon	14	Arsenic, cadmium, chromium, copper, lead, nickel, zinc, DDT, PAHs, PCBs, phthalates, cyanide, volatile organic compounds, phenanthrene, pentachlorophenol
Rhode Island	—	—
South Carolina	2	PCBs, chromium, mercury
South Dakota	4	Mercury
Virginia	31	Selenium, chromium, arsenic, iron, manganese, nickel, cadmium, zinc, copper, mercury, lead
Virgin Islands	10	Mercury, copper, selenium, cadmium, nickel, zinc
Wisconsin	24	PCBs, dioxin, mercury, pentachlorophenol, arsenic, cadmium, chromium, zinc, oil and grease, pesticides, PAHs
<b>Total</b>	<b>384</b>	

— Not reported.

Source: 1990 State Section 305(b) reports.



## SIERRA CLUB GREAT LAKES FACT SHEET



### Contaminated Sediment Clean-up A Top Priority for Restoration of the Great Lakes

#### I. Summary

Congressional appropriations well spent in the Great Lakes over the past four years have: 1) identified priority contaminated sediment 'hot spots' in Great Lakes bays and tributaries; 2) developed a cost-effective means of sampling and determining the conditions under which contaminants from sediment become available to fish, birds, wildlife and people; 3) tested and modified a series of technologies for isolating or treating the contaminants; and 4) developed formulas for determining which of those technologies will work best under different conditions. To make use of this research, we must act now to implement the recommendations of the U.S. EPA's ARCS Program (Assessment and Remediation of Contaminated Sediments), developed under Section 118 of the Clean Water Act, 1987, and now near completion.

#### II. The Problem

In itself, rapid sedimentation of navigable streams and harbors within the Great Lakes system limits, delays, or increases the cost of waterborne commerce, deprives farms of needed topsoil, destroys fish spawning grounds, and lessens the aesthetic appeal of Great Lakes coastal recreation areas.

When persistent, bioaccumulative toxic chemicals are included in the land runoff or deposited from industry effluent pipes or smokestacks and settle into bottom sediment, the problem is complicated a thousandfold.

When sediments and the poison chemicals they hold are resuspended—a constant process of wind and currents, ship and boat traffic, and movements of bottom-dwelling organisms—they provide fish and other aquatic plants and animals with a steady diet of toxic chemicals. This poison meal may be stale—some of the contaminants were deposited 20 to more than 100 years ago—but it is nonetheless lethal.

As other sources of pollutants are brought under better control, many Great Lakes scientists now believe that contaminants from sediment are the biggest source of toxic chemicals to lake fish and the other animals and people who eat them. This argument is particularly persuasive on Lake Michigan.

The health effects from these contaminants—predominantly from the ubiquitous PCBs—include serious chronic neurological and behavioral problems as well as reproductive impairments, birth defects and severe physical deformities. Other chlorinated organic compounds and a handful of metals such as mercury are also implicated in the chronic effects to aquatic and terrestrial creatures, including our national symbol, the bald eagle, and, of course, those particular omnivores at the top of the food chain—people.

#### III. Needed Action and Budgets

A. Authorization and funding for one full-scale demonstration of ARCS assessment and

technology at a Great Lakes site. Problems in a system that may be suspected but don't show up clearly in small, controlled pilot scale projects involving a few dozen yards of sediment can be corrected in a larger project involving the logistics of earth- and equipment-moving to remove several hundred yards of material. Cost: \$1.5 million.

B. Thorough sampling, assessment, and recommendation of appropriate technologies, based on cost-effective formulas developed in the ARCS program--at the 24 remaining Great Lakes Areas of Concern not sampled already in the ARCS program. This effort would provide data critically needed for federal enforcement actions against active or former polluters and/or for action by state in-place pollution programs. Cost: \$250,000 per site for a maximum of \$1.3 million a year for five years if all 24 sites are assessed.

C. Continuation of an inter-agency team of experts developed through ARCS with USEPA Great Lakes National Program Office oversight to provide ongoing technology transfer to states which will be carrying out sediment clean-up. Allocation of a fixed percentage of GLNPO's annual budget will guarantee continuity for this effort. Cost: \$1.5 to \$2 million minimum per year.

D. Pass through money to states to provide coordination of a sediment clean-up program and to fund public participation through Remedial Action Plan Public Advisory Committees in Great Lakes Areas of Concern. Cost: \$600,000.

Additional Congressional action is recommended, at no cost, to require active coordination - efforts with Canada by the EPA's Great Lakes National Program Office in this binational water body bound by an international Great Lakes Water Quality Agreement.

The International Joint Commission's specific recommendations regarding agreements for actions on lake Superior should be implemented. A specific binational agreement to protect Lake Superior from the disposal of contaminated dredged materials and other pollution sources has been developed by three U.S. states and one Canadian province. This agreement should be implemented to begin to provide Lake Superior with the protection it needs.

And, finally...Unfinished business from the 102nd Congress includes two excellent bills that should immediately be re-examined and passed. Senator Howard Metzenbaum (D-OH) introduced legislation to provide badly-needed monitoring of confined disposal facilities and better control of the manner in which materials are disposed of in current and proposed CDFs.

And Senator John Glenn (D-OH) introduce legislation to require an audit of sediment sources into the Great Lakes and propose methods of reducing sediment inputs into the streams that flow into the Great Lakes.

#### V. For more information, contact...

Glenda Daniel, Executive Director, Lake Michigan Federation, 59 E. Van Buren, Suite 2215, Chicago, IL 60605. Telephone 312-939-0838. FAX: 312-939-2708.

Brett Hulsey, Sierra Club Great Lakes Program, 214 N. Henry St., Madison, WI 53703. Telephone 608-257-4994. FAX 608=257-3513.

## An Act

To amend the Federal Water Pollution Control Act to provide for the removal of the quality of the Nation's waters, and for other purposes.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

SECTION 1. SHORT TITLE: TABLE OF CONTENTS: AMENDMENTS TO FEDERAL WATER POLLUTION CONTROL ACT: DEFINITION OF ADMINISTRATOR.

(a) SHORT TITLE.—This Act may be cited as the "Water Quality Act of 1987".

### SEC. 104. GREAT LAKES.

Title I is amended by adding at the end the following new section:

#### Sec. 118. Great Lakes

##### (c) Great Lakes Management

(3) 5-Year Study and Demonstration Projects.— The Program Office shall carry out a five-year study and demonstration projects relating to the control and removal of toxic pollutants in the Great Lakes, with emphasis on the removal of toxic pollutants from bottom sediments. In selecting locations for conducting demonstration projects under this paragraph, priority consideration shall be given to projects at the following locations: Saginaw Bay, Michigan; Sheboygan Harbor, Wisconsin; Grand Calumet River, Indiana; Ashtabula River, Ohio; and Buffalo River, New York.

##### (h) AUTHORIZATION OF GREAT LAKES APPROPRIATIONS. -

There are authorized to be appropriated to the administrator to carry out this section not to exceed \$11,000,000 per fiscal year for the fiscal years 1987, 1988, 1989, 1990, and 1991. Of the amounts appropriated each fiscal year-

(1) 40 percent shall be used by the Great Lakes National Program Office on demonstration projects on the feasibility of controlling and removing toxic pollutants;

EXAMPLE OF MARINE CONTAMINATED SEDIMENT SITES

\* New Bedford Harbor, MA. According to an EPA Region 1 case study, this Superfund site in southeast Massachusetts consists of 18,000 acres of sediments that include the Acushnet River estuary and the harbor of the city of New Bedford. The sediment is contaminated with PCBs and heavy metals. Concentrations of more than 100,000 parts per million of total PCBs in sediments have been found in the Acushnet River. EPA notes that "numerous studies in the early 1970s raised concerns about the site. The original concern over the site was related to human health effects. However, the loss of the harbor as a resource may be an equally important factor driving future remedial action." The area has been closed to all fishing and shellfishing since 1979.<sup>1</sup>

\* Sullivan's Ledge, New Bedford, MA. Another underwater Superfund site, Sullivan's Ledge encompasses 270 acres, with the most severe contamination concentrated in a 112 acre site. EPA has found chemical contamination of soil, sediments and groundwater at the site. An example of the mobility of contaminated sediments is found at Sullivan's Ledge, where PCB-laced soils have migrated offsite via runoff. The mobile sediments have, in turn, polluted stream bottomlands and wetlands north of the site.<sup>2</sup>

\* Quincy Bay, MA. EPA's Region 1 has conducted a five-part study to investigate the types and concentrations of pollutants in sediments of Quincy Bay, the incidence of abnormalities in Bay marine life, and the potential public health implications of consumption of seafood exposed to contaminated Bay sediments. The study, released in 1988, identified sediment contamination by organic and metal pollutants. Quincy Bay flounder and soft-shelled clams were found to exhibit "an extremely high incidence of several conditions believed by the investigators to be associated with environmental stress and poor health"; these conditions were found to be "unusually high" in comparison to other New England areas. Cancerous lesions were found in more than 25 percent of the tested flounder, while nearly 85 percent had liver problems. Approximately 80 percent of the soft-shelled clams had "significant pathological conditions." The study recommended that a human health advisory regarding consumption of lobster tomalley from Quincy Bay be immediately issued. It also recommended that EPA develop sediment quality criteria for chemicals such as those detected in contaminated urban embayments.<sup>3</sup>

\* New York/New Jersey Harbor, NY. According to EPA, sediments in the New York/New Jersey Harbor are contaminated with a variety of chemicals, including mercury, cadmium, DDT, PCBs, and petroleum hydrocarbons. EPA has pinpointed major sources of contamination in the area, including permitted discharges, municipal wastewater that includes a significant volume of

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<sup>1</sup> PTI Environmental Services. Workshop Proceedings: Toxic Sediments - Approaches to Management. (Prepared for the U.S. Environmental Protection Agency). Environmental Protection Agency: Washington, D.C. p. B-5. September 1988.

<sup>2</sup> Ibid, pp. B-24 - B-27.

<sup>3</sup> Environmental Protection Agency, "Assessment of Quincy Bay Contamination: Summary Report." Environmental Protection Agency: Boston, MA. June 1988. pp. 1-3.

untreated sewage, agricultural runoff, PCBs from extensive contamination of the Upper Hudson River, urban runoff and atmospheric deposition.<sup>4</sup>

\* Chesapeake Bay, MD. NOAA has discovered that toxic organic chemicals and metals enter the Chesapeake Bay from industrial and municipal pipelines and agricultural and urban runoff. Contamination of sediments and organisms by these pollutants is severe near Baltimore Harbor. Other areas of the Bay, such as the Elizabeth River in Virginia, are contaminated by toxic materials. Polyaromatic hydrocarbons (PAHs) are the most prominent organic contaminant found in both the Maryland and Virginia portions of the Bay, while PCBs and metals are found in Baltimore Harbor sediments. The PAHs in the sediments of the Bay have caused lesions in Bay fish.<sup>5</sup>

\* Mississippi Sound, Gulf of Mexico. According to NOAA, Biloxi Bay has ranked consistently high for PCBs and chlordane, and it has some of the highest concentrations of Polycyclic Aromatic Hydrocarbons (PAH) found in the Gulf of Mexico. Pascagoula Bay has very high arsenic levels in the sediments, while Pass Christian has high concentrations of cadmium. These pollutants, and other chemicals, are borne into the Gulf by the Mississippi and other rivers, and from discharges associated primarily with refineries and the petrochemical industry. Dredging and dumping sediments is an additional source of pollution into the Gulf.<sup>6</sup>

\* San Diego Bay, CA. PCBs, tributyltin (TBT), DDT, PAH, heavy metals and organic chemicals have all been found in San Diego Bay sediments. There is a 13,000-fold increase in copper levels on the Bay bottom. In addition to these pollutants, aromatic hydrocarbons and pesticides are carried into the Bay from the 114 storm drains that empty into it.<sup>7</sup>

\* Santa Monica Bay, CA. Discharges of DDT from the Los Angeles county outfall pipe have contributed to massive concentrations of DDT in Santa Monica Bay sediments. A DDT plume in Bay sediments stretches almost 18 miles north. Along with DDT, Bay sediments also have heavy metal contamination. Levels of lead, cadmium and chromium in sediments have been found at 37 to 324 times the action levels of ambient water concentrations.<sup>8</sup>

\* San Francisco Bay, CA. According to a 1988 ocean pollution report, there is not an area in

<sup>4</sup> Ibid, pp. B-13 - B-17.

<sup>5</sup> Chesapeake Executive Council, "The Second Progress Report under the 1967 Chesapeake Bay Agreement." Chesapeake Executive Council: Richmond, VA. pp. 28-33. December 1969.

<sup>6</sup> Memo from Dorothy Leonard to Charles Ehler, National Oceanic and Atmospheric Administration. October 16, 1990.

<sup>7</sup> Heal the Bay, "San Diego Bay Toxic Hot Spots." Heal the Bay: Santa Monica, CA.

<sup>8</sup> Hayden, Tom, "Ocean Pollution in California: Regional Problems - Statewide Concern." California Assembly Task Force on Toxic Pollution in Santa Monica Bay: Sacramento, CA. p. 7. August 1988.

San Francisco Bay that is not contaminated to some degree. This is not surprising, given the fact that the Bay hosts 65 major dischargers, large amounts of urban runoff, agricultural drainage and reduced fresh water inflows. According to the 1988 report, estimates by the General Accounting Office indicate that non river-borne sources annually discharge 21.5 million tons of suspended solids, 26,000 tons of petroleum hydrocarbons, 225 tons of arsenic, 2,370 tons of chromium, 2,600 tons of lead, 4 tons of mercury and about 1 ton of PCBs into the Bay.<sup>9</sup>

\* Oakland Harbor, CA. A case study of Oakland Harbor conducted by EPA Region 9 revealed heavy metals, PAH, and TBT in elevated concentrations. This contamination is attributed to shipyards and heavy industry situated near the Harbor. Sediments in Oakland's Inner Harbor also have cadmium concentrations exceeding international or USFDA standards.<sup>10</sup>

\* Everett Harbor, Olympia, WA. Much of the sediment contamination in Everett Harbor is attributable, believes EPA Region 10, to historical and present discharges from pulp and paper mills. Ongoing surface runoff from storm drains also contributes significant loadings of contaminants. Found in Harbor sediments are a variety of chemicals, including resin acids, chlorinated phenols and PCBs.<sup>11</sup>

\* Commencement Bay, WA. Located in southern Puget Sound, chemical contamination of the marine environment is the major problem at this Superfund site. Commencement Bay supports important fisheries resources. Yet the site includes contaminated sediments in industrialized waterways and along the shoreline adjacent to a former copper smelter. Twenty-five major identified sources supply metals, PCBs, hydrocarbons and PAH compounds to the Bay, but more than 400 potential sources of contaminants have been identified.<sup>12</sup>

\* Puget Sound, WA. Studies conducted on English sole from Washington's Puget Sound revealed a high occurrence of liver lesions and "unique degenerative conditions." The authors of the study, scientists with the National Marine Fisheries Service (NMFS), concluded that exposure to "polluted embayments of Puget Sound" were directly responsible for the increased fish diseases. Concerns raised by the NMFS study are further corroborated by a case study of Puget Sound conducted by EPA's Region 10. Heavy metals, PCBs, and a variety of chemical contaminants were released into the Sound from point and nonpoint sources, combined sewer overflows and storm drains, and agricultural runoff, according to EPA. The Agency's case study notes that, "surveys of Puget Sound by NOAA, EPA and other agencies in the early 1980s documented the presence of abnormal benthic communities and high abundances of tumors in flatfish harvested in areas of high sediment contamination. Subsequent work has shown that

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<sup>9</sup> *Ibid.*, p. 9.

<sup>10</sup> PTI Environmental Services, *op cit.*, pp. B-37 - B-46.

<sup>11</sup> *Ibid.*, pp. B-18 - B-23.

<sup>12</sup> *Ibid.*

sediment contamination in potentially toxic concentrations is widespread in many urban and industrial areas of the Sound.<sup>13</sup>

\* Milwaukee Estuary, WI. Many pollutants have affected the estuary, including significant combined sewer overflow discharges; upstream nonpoint sources ranging from polluted runoff from agricultural land and industrial sites, and seepage from waste disposal sites. The few fish found in the area are contaminated. Beach closings due to bacterial contamination have occurred, as well.<sup>14</sup>

\* Saginaw River/Saginaw Bay, MI. Organic pollutants and heavy metals have contaminated River and Bay sediments. Several health advisories have been issued for consumption of salmon, trout, muskellunge, carp and catfish. Polluted runoff, including heavy phosphorous inputs, is a major culprit.<sup>15</sup>

\* Waukegan Harbor, IL. Contamination at this Superfund site was first observed in the early 1970s. Exceedingly high levels of PCBs have been measured in harbor sediments, triggering concern over human health impacts as the city of Waukegan has an emergency drinking water intake in the harbor. Fish consumption advisories are also in effect from PCB contamination, and dredging and navigation are restricted due to heavily contaminated sediments.<sup>16</sup>

\* Maumee River, OH. Eutrophic conditions in Lake Erie are increased by phosphorous carried by the Maumee River from agricultural runoff. Along with farming impacts, river and Lake sediments have been contaminated with oxygen-consuming materials and heavy metals from municipal and industrial point sources, and combined sewer outfalls. Violations of effluent limits have been recorded for some sewage treatment plants along the river, resulting in water quality violations for dissolved oxygen and human wastes.<sup>17</sup>

\* Black River, OH. Discharges from the steel industry and other heavy industries have led to significant sediment contamination from heavy metals. Ammonia and fecal coliform levels are also high. Various forms of cancer have been found in fish in the lower Black River. A 1980 study identified lip cancers in fish; the cancers were found to correspond to high contaminant concentrations.<sup>18</sup>

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<sup>13</sup> Ibid.

<sup>14</sup> Fogarty, David, "Great Lakes Toxic Hotspots: A Citizen's Action Guide." Lake Michigan Federation: Chicago, IL. p. 40. 1987.

<sup>15</sup> Ibid, p. 41.

<sup>16</sup> Ibid, pp. B-9 - B-12.

<sup>17</sup> Ibid, p. 43.

<sup>18</sup> Ibid, p. 44.

\* Ashtabula River and Harbor, OH. Fish from this area have been found to contain hydrocarbons, PCBs and heavy metals, resulting in a fish advisory for the lower two miles of the river. Sediments in Fields Brook, which feeds into the river, have been classified as hazardous and qualify for cleanup under Superfund. A large number of industries discharge into the brook and river. Since the Ashtabula has periods of zero water flow, wastewater generated in the area around the river can comprise the total flow of the river.<sup>19</sup>

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<sup>19</sup> Ibid.

STATEMENT OF  
NATIONAL WILDLIFE FEDERATION  
BEFORE THE  
SUBCOMMITTEE ON WATER RESOURCES  
AND THE ENVIRONMENT  
OF THE  
PUBLIC WORKS & TRANSPORTATION COMMITTEE  
ON THE  
CLEAN WATER ACT REAUTHORIZATION

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## INTRODUCTION

Thank you for the opportunity to present to the Water Resources and Environment Subcommittee this statement on reauthorization of the Federal Water Pollution Control Act ["Clean Water Act," hereinafter "CWA"] and to offer recommendations for legislation to clean up and protect our Nation's aquatic resources. The National Wildlife Federation (NWF) and its 5.3 million members and supporters have been working for clean water since we were first established in 1936.

This testimony is divided into four major sections, each addressing a CWA issue of major concern to the NWF. Part I addresses reducing and eliminating toxic contamination in the food chain. Part II discusses keeping clean waters clean, or the prevention of further pollution of the nation's waters. In Part III, the integral role of water conservation in meeting CWA goals is discussed. And finally, Part IV addresses the issue of wetlands protection.

**PART I: REDUCING AND ELIMINATING  
TOXIC CONTAMINATION IN THE FOOD CHAIN**

Despite the progress that has been made in the past 20 years since the Clean Water Act was originally enacted, toxic chemical contamination of the nation's waters remains a serious threat to the health of people and wildlife. The reasons include the fact that EPA's implementation of the Clean Water Act allows the continued discharge of even the most dangerous toxic chemicals. EPA's regulatory efforts have been inappropriately directed at attempting to control and manage toxic pollution after it has been created, rather than attempting to prevent toxic pollution in the first place. EPA and the nation have spent years of effort debating "acceptable" concentrations of even the most dangerous toxic pollutants, rather than setting timetables to force technology that would eliminate the use and discharge of these chemicals. In addition, EPA's implementation of the NPDES permit system has allowed the use of dilution and mixing zones for toxic discharges. This practice has never been sanctioned by Congress and it results in increased discharges of dangerous chemicals into the nation's waterways.

The National Wildlife Federation recommends that Congress return to the original wisdom of the Clean Water Act by restoring the zero discharge philosophy. This philosophy can be implemented by Congress amending the Act to emphasize prevention and reduction of all toxic pollution and the elimination of the most dangerous toxic chemicals. In this section of our testimony, NWF recommends a program to "sunset" or phase out the discharge of the most harmful toxic chemicals -- those that have contaminated the food chain and pose substantial threats to wildlife and humans. Congress should also amend the Act to put an end to the use of dilution as a solution to toxic pollution.

**The Problem: Toxic Pollution Continues to Threaten the Health  
of People and Wildlife.**

Despite the notable progress that has been made in some parts of the country, many waterways throughout the country fail to meet the basic "swimmable and fishable" goals of the Clean Water Act. EPA's 1990 Water Quality Inventory found elevated levels of toxic pollutants in 39 percent

of all monitored lake acres, 15 percent of monitored river miles and 19 percent of estuarine square miles. In the Great Lakes, 98 percent of the shoreline miles monitored show elevated levels of toxic pollutants.

Certain chemicals, including PCBs, dioxin, mercury and many pesticides are of special concern because of their ability to bioaccumulate. This phenomenon can result in concentrations that are too small to even detect in water being magnified millions of times in the flesh of fish that inhabit the waters. This pernicious characteristic of a relatively few chemicals results in dangerous contamination of not only fish, but the entire food chain in sensitive ecosystems like the Great Lakes. Scientists have documented a long list of problems from chemicals that bioaccumulate. For example:

- An U.S. EPA data base indicates that health warnings, advisories or bans on eating fish are in place on over 4,000 bodies of water in 46 of the 50 states.
- Populations of bald eagles, mink, otter, turtles, cormorants, herring gulls, ring-billed gulls, common terns, Forster's terns and other species that live near polluted waters in North America suffer from one or more of the following health problems: mortality, population decline, egg-shell thinning, twisted beaks and other deformities, or behavioral problems.
- Certain chemicals are known to interrupt the endocrine system in people and wildlife by blocking estrogen and testosterone from performing their normal functions. For example, some male herring gulls from Lake Ontario colonies behave like females, and some female herring gulls attempt to pair with females. In other parts of the Great Lakes mink are born with both male and female sex organs.
- Children born to women who ate moderate to high amounts of PCB-contaminated Lake Michigan fish performed significantly worse on tests of their visual and verbal memory skills.

Today, concern is mounting over insidious effects of toxic pollution on sensitive biological systems like the role of hormones and reproduction and development. Indeed, the most troubling signs of damage to our health from these chemicals is being seen in the offspring of people and wildlife that frequently eat contaminated fish.

### **A New Approach Is Needed.**

These and other problems persist today because EPA has failed to take seriously the zero discharge intent of the original Clean Water Act. Arguments about how much pollution might trigger endocrine disruption or reproductive problems are more arcane, more time-consuming and more subject to manipulation by polluters. As pollution prevention becomes widely recognized as an effective and efficient technological solution to pollution -- in striking contrast to the dilution solution promoted by EPA and many states -- the technology forcing effect of zero discharge is more relevant and makes more sense today than in 1972.

EPA has failed not only to take seriously the zero discharge intent of the Act, but the Agency has implemented the Act in a way that allows polluters to exploit dilution loopholes. Dilution techniques such as mixing zones and differing stream flow calculations were developed for control of conventional pollutants, such as phosphorus, that degrade after being discharged. This approach does not work for toxic chemicals that persist in the environment or build up in the food chain. The use of dilution does not protect against the long term effects of toxics in waters downstream from the discharge pipe, in sediments or in the food chain.

In our report, "A Prescription For Healthy Great Lakes," the National Wildlife Federation recommended a program of "sunsetting" to prevent pollution from the most dangerous toxic chemicals. The International Joint Commission, has recommended sunsetting as an essential strategy to implement the requirements of the U.S. Canada Great Lakes Water Quality Agreement. The IJC has defined sunsetting as a comprehensive process to restrict, phase out and eventually ban the manufacture, generation, use, transport, storage, discharge and disposal of persistent toxic substances.

The success of bans and phase-outs in protecting the environment is illustrated by the few cases where this approach has actually been implemented. For example, emissions of lead dropped by 86 percent from 1975 to 1985 after the sunseting of lead in gasoline. Levels of DDT and PCBs in body fat have each dropped by more than 70 percent since their use or production was banned in the early 1970's. And mercury levels in sediments declined by 80 percent between 1970 and 1979 after the use of mercury was replaced in the production of chlorine. In fact, in a study of the success of Great Lakes protection efforts, the President's Council of Environmental Quality concluded that:

"It appears that the only chemicals to have declined significantly in the Great Lakes ecosystem are those whose production and use have been prohibited outright or severely restricted."

The sunseting concept has been endorsed by and is being implemented by Canada and several European countries. The Ontario Ministry of the Environment recently published a report recommending the sunseting of 21 substances. Several European countries are in the process of ratifying the sunseting concept as part of the "Convention for the Protection of the Marine Environment of the North-East Atlantic." This convention provides that a Commission will be established to "draw up plans for the reduction and phasing out of

substances that are toxic, persistent and liable to bioaccumulate arising from land-based sources."

### **Recommendations**

Congress should amend the Clean Water Act to implement the sunseting of the most dangerous chemicals. Priority should be given to those chemicals that bioaccumulate. Sunseting amendments must accomplish two objectives: a prohibition, (either immediately, or according to a specified timetable) against discharges of sunset chemicals to water; and a phase out of all uses of sunset chemicals to prevent releases from being transferred from one-medium to another. We recommend the following amendments to Section 307 of the Act

- **Immediate Action on a "Short-List" of Chemicals:** EPA should issue regulations that would immediately prohibit the discharge of those chemicals for which there is clear evidence of harm. In their Great Lakes Water Quality Initiative, EPA has identified 28 chemicals that are highly bioaccumulative. Ontario has identified 21 candidates for bans and phase-outs. A group of scientists have listed 26 chemicals or chemical families that are capable of disrupting the endocrine system. From these lists, the National Wildlife Federation has distilled a short-list of chemicals, which are the minimum recommended for sunseting: benzo[a]pyrene; hexachlorobenzene; lead; mercury; polychlorinated biphenyls (PCB's); 2, 3, 7, 8-TCDD and other dioxins; and 2, 3, 7, 8-TCDF and other furons.
- **A Procedure For Listing Other Chemicals For Eventual Sunseting:** EPA should be required to prepare a comprehensive list of additional chemicals whose discharge will be prohibited at a later date. Potential to bioaccumulate should be a primary criteria for listing additional chemicals. Researchers at George Washington University have proposed comprehensive scoring criteria for screening potential candidate chemicals for sunseting. Ontario has developed similar criteria. These could be readily adopted for use. Citizens should have the right to petition EPA to add other chemicals to this list.
- **A Multi-Media Link:** Once a chemical is targeted for discharge prohibition on either list, EPA must ensure that all sources of pollution are controlled. This could be accomplished by triggering a finding of "unreasonable risk" under the Toxic Substances Control Act. EPA would thus be empowered to issue regulations that would phase out all uses of sunset chemicals.

Congress should also amend the Act to close the dilution loopholes. Dischargers of all toxic and non-conventional pollutants, especially those chemicals that are persistent and bioaccumulative, should be required to meet water quality standards at the end of the pipe.

In their last report on Great Lakes water quality, the IJC stated:

"Surely it is time to ask whether we really want to continue attempts to manage persistent toxic substances after they have been produced or used, or whether we want to begin to eliminate and prevent their existence in the ecosystem in the first place." (Emphasis in original.)

After 20 years of attempting to manage all toxic chemicals, it is time for Congress to instruct EPA to return to the zero discharge concept of the original Act. For some chemicals, any pollution is simply too much. Those toxic chemicals that build up in the food chain should be sunset.

## PART II: KEEPING CLEAN WATERS CLEAN

There is mounting recognition of the critical need to maintain biological diversity and to provide for protection of the whole ecosystem. Nowhere is that need more strongly evident than in our Nation's waters.

Over the past 20 years, the focus of attention has been on pollution cleanup of waters that are habitat for these declining species. As a result, protection of existing clean water from **new or increased sources of pollution** has fallen through the cracks. The National Wildlife Federation believes that a simple, effective and proactive approach to ecosystem protection is to amend the Clean Water Act with an explicit regime protecting the Nation's remaining clean water and threatened aquatic resources from new sources of pollution.

At present, Section 101 of the Clean Water Act does contain an overall objective to "maintain" the integrity of the Nation's waters, and EPA has interpreted the word "maintain" to require adoption by States of so-called "antidegradation" policies. However, these policies are vague, contradictory and are ignored more often than followed. In addition, EPA has taken the position that it lacks authority to compel states to adopt implementation plans for their antidegradation policies.

The National Wildlife Federation believes that a multi-tier antidegradation provision should be explicitly stated in the reauthorized Clean Water Act, expanding upon and improving EPA's existing regulatory scheme.

### Recommendations for High Quality Waters

One tier should address High Quality Waters which **exceed** state water quality standards. States should be required to conduct an antidegradation review and public hearing when a **new or increased source** of pollution is proposed for discharge into high quality waters. A waiver for "di minimis" discharges of conventional, nontoxic pollutants could be allowable. However, the review should be required in all cases involving proposed discharges of toxic or bioaccumulative chemicals which are inherently dangerous to humans, aquatic organisms and wildlife. If, after the review, the decision is made to allow degradation from the new

pollutant, the State should be required to put a cap on future new source discharges to the same waterbody.

For the antidegradation review, the person seeking the discharge should carry the burden of proving: (a) that the new or increased pollution is necessary to accommodate important economic or social development in the area where the waters are located; (b) that there are no pollution prevention techniques available to prevent the discharge; and (c) that there will be no damage to the ecological integrity of the waterbody resulting from the new or increased pollution. In no event should high quality waters be degraded below state standards for any reason.

In the past, one or more states have refused to conduct antidegradation reviews when a new chemical constituent is proposed for discharge into waters that are generally described as impaired. The Clean Water Act should be amended to prevent this result. Where a waterbody is impaired overall due to the presence of multiple constituents, a review should be required when a discharger proposes to introduce a new chemical pollutant into waters that are "high quality" (that is, better than the state standard) for that particular pollutant or to increase an existing discharge.

In addition, antidegradation requirements should be expressly extended to new or increased nonpoint sources of pollution, assuming a new nonpoint bill is enacted into law containing some mechanism for new sources to be identified and regulated.

### **Recommendations for Outstanding National Resource Waters**

A further tier of protection should provide for designation of the Nation's pristine waters as Outstanding National Resource Waters, which would then receive absolute protection against new or increased sources of pollution.

A recent National Wildlife Federation report reveals that, under the present lax regulatory schemes, fewer than 3.6% of the Nation's river miles have, to date, received this designation and most of these river miles are protected under state programs that fail to provide the appropriate level of protection. At least 8 States have no state law

authorizing designations, and some 13 States that do have the legal authority to make designations nevertheless say they have no systematic procedure to inventory eligible waters.

A new Clean Water Act antidegradation section should:

- Define Outstanding National Resource Waters as all waters situated in, or affecting, national or state parks, wildlife refuges, wilderness areas, wild and scenic rivers, estuarine and marine sanctuaries, and critical habitat for endangered species (unless such designation would be deemed inappropriate by federal land management).
- Mandate that EPA, in consultation with appropriate state and federal agencies, publish criteria to identify additional eligible waters based on special ecological, recreational, cultural or historical significance.
- Require states, at the time of their 3 year water quality standards review and with the assistance of public participation, to name and formally designate the particular outstanding resource waters that fall within the description above. If a State fails to give the formal designation to an eligible waterbody, then the State should be required to give reasons why it did not do so, and EPA should be given authority to override this decision for good cause and make a federal designation.
- Enable citizens to petition for designation of waterbodies they believe are particularly deserving of outstanding waters status and provide for federal land managers to seek designation of waters in or affecting their areas.

The National Wildlife Federation believes that these crucial steps must be taken in order to protect our last, best unique aquatic environments and halt the steep descent of our remaining aquatic resources toward extinction. In addition, protection of existing clean water makes eminent good sense. It is wiser and cheaper to protect waterbodies from

degradation now than it is to pay for cleanup and endangered species recovery plans later down the road. Nor is it too much to ask that persons wanting to discharge new pollution be required, as a cost of doing business, to absorb the expense up front of minimizing or eliminating the pollution. In the end, if the polluter does not pay, the expense will fall unfairly on the taxpayer as cleanup or, tragically, on the fish and wildlife that are within our trust to protect.

### **Part III: Water Conservation**

As this committee knows, EPA recently reported that **over \$110 billion** in capital investment would be necessary for publicly owned wastewater treatment plants to comply with the existing requirements of the Clean Water Act between 1990 and 2010. Financial resources of this magnitude will be very difficult to come by. However, by reducing unnecessary discharges to overburdened treatment plants, water conservation can reduce the size and the cost of expensive plant expansion and new facilities. Conservation can also lower the cost of existing water and sewer service.

Unfortunately, the existing provisions of the Clean Water Act designed to promote water efficiency have not been adequate to prevent water waste. In fact, some utilities and municipalities have promoted water use rather than water conservation. Water efficiency must be an integral part of the Nation's efforts to improve wastewater treatment and maintain healthy aquatic ecosystems.

#### **Water Conservation Standards for New or Enlarged Facilities**

We recommend that basic water efficiency standards be set for water and sewer utilities seeking to expand water supply or wastewater treatment facilities requiring permits under the Clean Water Act. Sewage treatment plants receive permits under section 402 of the Act to discharge treated wastewater into navigable waters. When water supply systems discharge fill associated with construction of water intakes or storage reservoirs into waters of the United States, including wetlands, they receive permits under section 404. Water suppliers may also need 402 permits for the discharge of filter backwash from potable water treatment.

In each of these situations, the receipt of a federal permit for new or expanded capacity should be conditioned on the implementation of basic water efficiency measures. For example, applicants for permits for new or expanded water supply facilities should institute several well known water efficiency measures -- such as metering all customers and eliminating promotional rate structures -- and should be able to show that their proposed facilities have been sized to account for the

conservation savings. Similarly, operators of wastewater treatment plants seeking permits to discharge treated water from new or expanded facilities should demonstrate that they have met basic requirements to reduce wastewater volume. The permits issued should take into account reductions in water demand and wastewater volumes that can be achieved with cost-effective conservation efforts.

### **Integrated Resource Planning (IRP)**

In order to ensure that the limited funds available for wastewater treatment are used most efficiently, applicants for State Revolving Fund (SRF) loans for new or expanded treatment capacity should prepare an integrated resource plan. Such plans will be used to identify and evaluate the least costly alternatives, or mix of alternatives, for managing growing volumes of wastewater. EPA should provide guidelines and technical advice on the preparation of integrated resource plans, while state agencies administering the SRF's should review their adequacy and consider their content when awarding SRF loans.

The successful experience of electric utilities with integrated resource planning indicates that such analysis holds great promise to increase the efficiency of water and wastewater utilities. San Jose and Santa Monica, California, have been early leaders in this field. New York City's ongoing water conservation program is providing less costly alternatives to an anticipated multi-billion dollar outlay for water supply and wastewater treatment expansion.

Wastewater treatment and water supply entities should be encouraged to work together in analyzing savings from water efficiency improvements. Water conservation investments can reduce the costs of both water supply and wastewater treatment. Conservation has often been undervalued because water supply and wastewater treatment entities working independently have seldom assessed the full range of benefits. Once these entities have collaborated on an integrated resource plan, they will be able to make more informed decisions about cost-effective investment in water supply and wastewater treatment.

## Use of Revolving Funds for Water Conservation Measures

Where conservation measures are found to have the potential to reduce the capital or operating costs of wastewater treatment, we recommend that such measures be eligible for funding from SRF's. Last year, NWF surveyed the 50 state agencies administering SRF programs, and found no more than five where water conservation measures were routinely eligible for funding. Particularly disturbing were the states' limitations against the use of funds for the installation of water saving equipment on private property. Broadening SRF eligibility to include conservation is essential for "leveling the playing field" for system planners looking for least-cost solutions to meet wastewater treatment needs.

## Revenue Sufficiency and Rate Design

Recent surveys have found that a large number of municipalities -- 38% in one survey -- do not have user charge systems in place that fully recover the cost of operation and maintenance of their treatment plants, as required by the Clean Water Act and EPA's current regulations. As the EPA Inspector General has pointed out, in such communities it is not a matter of if, but when, such facilities will begin to deteriorate and fail to meet their permit requirements. In addition, such communities are directly undercutting water conservation efforts by underpricing wastewater treatment service to their customers.

In order to deal with this dual threat to both water quality goals and sound resource management, we recommend that states be required, as a condition of future financial assistance from the federal government, to periodically review the adequacy of the user charge systems of the publicly owned treatment works under their jurisdiction. At least once every five years, concurrently with NPDES permit review if they so desire, states should make sure that revenues are adequate to recover the cost of operation, maintenance, and minor replacements, and that rate designs are not promoting unnecessary wastewater discharges. Additionally, EPA should be directed to spot check user charge systems on a more systematic basis, and should have the authority to impose civil penalties equal to the amount of revenue deficiency that they uncover in such audits.

**Recommendations**

NWF urges Congress to:

- Enact minimum standards for water conservation for growing water and wastewater systems that seek permits to expand under the Clean Water Act.
- Encourage communities to integrate water conservation into their planning for any new or expanded wastewater facilities proposed for funding out of the State Revolving Loan Funds established by the Clean Water Act.
- Make water conservation eligible for funding by State Revolving Loan Funds.
- Ensure that local wastewater treatment charges are sufficient to recover all the costs of operation and maintenance of treatment works.

## **PART IV: SECTION 404 OF THE CWA: THE NATION'S WETLANDS REGULATORY PROGRAM**

Because of the critical ecological function wetlands play in the hydrological cycle, their protection is critical for meeting the Clean Water Act goal "to protect and maintain the chemical, physical, and biological integrity of our nation's waters." It is for precisely this reason that the Subcommittee should adopt policies to strengthen and expand protection of the nation's wetlands resources.

### **Status and Trends of Our Nation's Wetlands**

Wetland losses since the late 1700's have been enormous. Of the original 215 million acres of wetlands believed to exist in what is now the coterminous United States in the late 1700's, only an estimated 103 million acres remained by the mid-1980's. Some areas of the country have been particularly hard hit by the loss of wetlands (Table 1.) For example, the state of Ohio has already lost 90% of its historic wetlands resource. Unfortunately, latest U.S. Fish and Wildlife Service statistics testify to the inadequacy of the current Section 404 (§404) Wetlands Regulatory Program. These data show that wetland losses continued at an estimated 290,000 acres annually during the 1970's to 1980's, the most recent time period for which trend statistics are available.

### **Wetlands Functions and Values**

With the loss of wetlands has come a tremendous loss in the functions and values that they provide for people. It is well established in the scientific literature that wetlands provide a number of critical ecological functions from which the American public derives enormous benefits -- economic and otherwise. Wetlands functions and values has been the subject of dozens of texts and hundreds of publications and anything other than a cursory overview of the topic is beyond the scope of this testimony. Nonetheless, because many of the arguments made against a strong wetlands regulatory protection program frequently turn on the issue of economics, it is important that the Subcommittee fully understand the ecological, economic and social ramifications of reducing federal protection for wetlands. Table 2, for example, reveals the proverbial "tip of the iceberg," by showing the importance of sport

fisheries --just one function of wetlands-- to anglers, workers, and the economy in selected states. In fact, in California alone, the sport fishing industry, which is dependent upon clean water and wetland habitats, provides more than 70,000 jobs. Scientists generally agree that wetlands provide the following values and functions:

- Flood Conveyance
- Storm Surge Abatement
- Water Quality -- Nonpoint Pollution and Sediment Control
- Groundwater Recharge and Discharge
- Habitats for Rare and Endangered Species,  
    Waterfowl and Other Wildlife
- Habitats for Fish and Shellfish
- Recreation
- Water Supply
- Food Production
- Timber Production
- Historic and Archeological Sites
- Education and Research
- Open Space and Aesthetics

## Recommendations

In the past, implementation of the §404 program has been plagued with institutional and administrative problems which have frustrated the regulated community and the environmental community, while allowing our wetlands base to continue to erode. These problems must be remedied. However, rather than "solve" them with wholesale changes to the program, as some suggest, we instead must work within the existing framework and fine tune the process.

Most of the criticisms of §404 do not involve major programmatic deficiencies but instead focus on delayed delineations and ambiguous permitting expectations. For example, some landowners have reported long delays in receiving delineations from the Corps District offices. Other applicants report having received inaccurate delineations that were conducted by poorly-trained consultants. And, partly as a result of misinformation generated and circulated by the regulated community and other opponents of §404, still others are confused by the program's content and scope.

A number of environmental groups, including NWF, have shared many of the same frustrations in obtaining timely answers and dependable information from Corps and EPA personnel. Therefore, we urge this Subcommittee to explore our recommendations to provide timely resolution to these problems. Many of the recommendations are included in H.R. 350, The Wetlands Reform Act, introduced by Representative Don Edwards (D-Ca). The NWF strongly supports H.R. 350, and urges its inclusion in the Clean Water Act reauthorization.

- Expand CWA §404 to cover drainage, dredging, flooding, clearing, channelizing, placement of piling-supported structures, and other significant physical wetlands alterations, regardless of whether any of these activities entail a discharge of dredge or fill material. The NWF, and more recently the National Wetlands Policy Forum, recognized that the nation cannot seriously address the problem of wetlands loss without the ability to control all major forms of physical wetlands alteration--not just discharges of dredged or fill material as provided under the existing §404 program.

The current rate of wetlands loss is a stark reminder that many activities that destroy wetlands often go completely unregulated by §404 and other state and federal programs, and continue unabated. We strongly recommend that the Subcommittee amend §404 to cover these other forms of alterations.

Expanding the scope of regulated activities would offer greater protection to wetlands, and it would actually help decrease much of the uncertainty associated with the program. Partly due to lack of clear direction, the Corps has historically made overly narrow and often inconsistent interpretations of what constitutes a discharge of dredged or fill material requiring a §404 permit. As a result, activities such as ditching, stream channelization, and clearing and bulldozing of wetlands vegetation have been inconsistently regulated, and a lot of time and resources have been expended by the regulatory agencies, the regulated public, and environmentalists debating this problem. Expansion of §404 to explicitly cover all major physical alterations of wetlands is necessary to fully protect wetlands and to eliminate this source of uncertainty and needless resource drain.

- The Corps should continue to administer the §404 program with EPA oversight. In the past, the Corps' weak implementation and enforcement of the §404 has been a liability to achieving the goals of the CWA and the overall effectiveness of protecting wetlands under §404. Recently, however, the Corps and EPA have begun working together to better solve longstanding problems with the §404 program. These initiatives include the establishment of the Wetlands Mitigation Memorandum of Agreement and the proposed rule to close the loophole for "de minimis" discharges. Both of these initiatives demonstrate to us that the program can run smoothly while maintaining dual agency oversight. But if the status quo is to be changed by vesting the §404 program in one agency, administration of the program should go to EPA, not the Corps because EPA is the author of the §404 (b)(1)

guidelines and EPA is charged with administration of the Clean Water Act.

- Explicitly include wetlands in the Clean Water Act goal statement. Although an explicit wetlands protection goal does not currently exist in the Clean Water Act, wetlands are an essential component of the waters of the United States, of §404, and of other CWA provisions. We, therefore, recommend amending the CWA goal section to include explicit reference to wetlands to ensure that all relevant provisions of the CWA contribute to wetlands protection.

- Strengthen the general permit program. The Corps' general permit program, particularly Nationwide Permit 26, sanctions the unreviewed and unmitigated loss of thousands of wetland acres annually. Furthermore, inadequate public involvement in overseeing this program seriously weakens its implementation and does nothing but expedite wetlands losses. Therefore, we recommend amending §404 to (1) require general permits to include adequate measures to track activities conducted pursuant to general permits; (2) forbid authorizing activities under general permits for which states have denied §401 water quality certification; and (3) provide the public and state and federal resource agencies with pre-discharge notifications and an opportunity to comment before activities are undertaken pursuant to general permits. Section 404(e) should be amended to require that each Corps district prepare reports documenting each activity and the amount of acreage affected that is authorized by each general permit and to require that the Corps submit a biennial report to Congress of cumulative impacts to wetlands and other aquatic areas under each general permit.

- Strengthen the role of Fish and Wildlife Service and the National Marine Fisheries Service in §404 permit decisions. Currently, the Clean Water Act and the Fish and Wildlife Coordination Act require the Corps to consult with the FWS and National Marine Fisheries Service (NMFS) on all §404 permits. Although these resource agencies can recommend

modifications be made to the permits, the Corps can, and frequently does, ignore these comments. Therefore, we recommend amending §404 to require the Corps to provide written explanation of its reasons for rejecting FWS or NMFS comments and to explain how the Corps' permit determination is consistent with the purposes of the Clean Water Act and the §404 (b)(1) guidelines.

- Earmark §404 enforcement penalties for §404 implementation. Historically, the Corps' and EPA's §404 implementation programs have been severely underfunded. To make available additional resources over and above appropriated monies from general revenues, we recommend amending §404 to establish an account into which §404 enforcement penalties would be deposited for use by the EPA and Corps for §404 program implementation.
- Modify §404 state water quality certification requirements to better protect aquatic ecosystems. While §401 certification requirements are generally required from states before a §404 permit is issued by the Corps, questions have arisen over whether the requirement applies to Federal Energy Regulatory Commission licensing and whether states can--or must--include narrative standards to protect wetlands and other aquatic habitats from degradation. Therefore, we recommend amending §404 to expressly broaden the protections provided by §401 and direct states to address physical and biological alterations of aquatic areas, as well as chemical pollution of those waters.
- Legislate EPA's definition of "fill material." For years the Corps and EPA have been at odds over the regulatory definition of "fill material." The result has been massive confusion and both agencies shirking the regulation of discharges of a number of materials that destroy wetlands [e.g., waste tires and mine tailings]. For this reason, we recommend amending §404 to legislate EPA's definition of fill as any material which has the effect of replacing an aquatic

area with dry land or of changing the bottom elevation of a waterbody.

- Strengthen the CWA citizens suit provision (§505) to provide for stronger wetlands protection by private citizens. Given the paucity of agency enforcement resources, vigilant private enforcement of §404 is critical to protecting the nation's wetlands. One reform which should be made is to clearly provide that §505 applies to §404 violations. Section 505 should also be amended to encourage courts to overcome their reluctance to impose restoration requirements in cases in which restoration of degraded wetlands is both practical and desirable.
- Make the §404 program more efficient by adopting a fast track provision for minor permits. Special priority should be given to minor permit applications (e.g., permits for activities that would disturb no more than 1 acre of wetlands) to ensure that they are processed within 60 days. Section 404(q) should be amended to require the Corps to allocate sufficient personnel to expedite minor permit applications in this fashion.

We urge the Subcommittee -- and Congress -- to step back from the controversies and to reaffirm the critical role the §404 program plays in attaining the central goal of the Clean Water Act -- to restore and maintain the integrity of the Nation's waters. We also urge the Subcommittee to assist our efforts in securing and applying more resources to §404 wetlands delineations, mapping, outreach and education, and to the program in general, and thereby make its value and importance more understandable to everyone. Finally, we urge Congress to support the nation's burgeoning interest in protecting wetlands by expanding the reach of regulated activities under §404 and by incorporating the additional strengthening amendments highlighted above. These are progressive and necessary changes if we are ever to achieve the goals of the CWA and end the long history of wetlands loss in this nation.

## SUMMARY

Reauthorization of the CWA, with strengthening amendments, is critical for protecting and cleaning up our Nation's aquatic resources. The NWF has presented here a prescription for achieving this objective.

**Toxic Contamination.** The original CWA goal of eliminating the discharge of toxic pollutants has not been met. Continued discharge of persistent, bioaccumulative chemicals is having serious health impacts on humans as well as fish, birds and other wildlife. The CWA should identify a "short list" of known pernicious chemicals causing these impacts and mandate their phase-out. EPA should be required to identify additional chemicals to sunset in the future. Also, the CWA should explicitly prohibit the use of mixing zones and other dilution factors and thus require end-of-pipe compliance with water quality standards.

**Keeping Clean Waters Clean.** Conservation of clean waters has received little attention under the CWA over the past 20 years due to the focus on pollution clean-up. As a step in achieving ecosystem protection, the CWA should be amended to protect clean water from new or increased sources of pollution. The Act should place strict conditions on degradation of high quality waters as Outstanding National Resources Waters, with absolute protection from new or increased pollution.

**Water Conservation.** Amendments to the CWA which require and encourage water conservation can significantly reduce the cost of wastewater treatment while effectively helping to protect our nation's waters and aquatic resources. Congress should enact minimum water conservation standards for new or expanded water and wastewater systems and ensure that water conservation measures are fully considered in the construction of new facilities.

**Wetlands.** Wetlands protection is integral to achieving the CWA purpose of "protecting and maintaining the chemical, physical, and biological integrity of the nation's waters." Because wetlands and wetlands functions continue to disappear at an alarming rate, the CWA must be amended to strengthen the existing wetlands regulatory program. In addition to improving the permitting process, the Congress must expand the scope of regulated activities to include all activities impacting wetlands.

Table 1. Wetland Losses in Selected States

<u>State</u>	<u>Wetland Acres</u>		<u>% Loss</u>
	<u>1780's</u>	<u>1980's</u>	
Arizona	931,000	600,000	36%
California	5,000,000	454,000	91%
Florida	20,325,013	11,038,300	46%
Georgia	6,843,200	5,298,200	23%
Illinois	8,212,000	1,254,500	85%
Louisiana	16,194,500	8,784,200	46%
Maryland	1,650,000	440,000	73%
Michigan	11,200,000	5,583,400	50%
Minnesota	15,070,000	8,700,000	42%
Mississippi	9,872,000	4,067,000	59%
Montana	4,844,000	643,000	87%
New Hampshire	220,000	200,000	9%
New Jersey	1,500,000	915,960	39%
New York	2,562,000	1,025,000	60%
North Carolina	11,089,500	5,689,500	49%
Ohio	5,000,000	482,800	90%
Oklahoma	2,842,600	949,700	67%
Pennsylvania	1,127,000	499,014	56%
Texas	15,999,700	7,612,412	52%
Utah	802,000	558,000	30%
Virginia	1,849,000	1,074,613	42%
West Virginia	134,000	102,000	24%
Wisconsin	9,800,000	5,331,392	46%

Table 2. The Sport Fishing Industry in Selected States

<u>State</u>	<u>Number of Anglers</u>	<u>Total Expenditures</u>	<u>Jobs</u>
Arizona	638,000	\$ 302,758,000	7,588
California	3,750,000	\$2,209,450,000	70,350
Florida	3,961,000	\$3,062,622,000	97,497
Georgia	1,403,000	\$ 948,638,000	27,706
Illinois	1,625,000	\$ 610,631,000	20,361
Louisiana	1,240,000	\$ 538,452,000	17,252
Maryland	980,000	\$ 314,042,000	9,827
Michigan	2,444,000	\$1,438,737,000	39,229
Minnesota	1,793,000	\$ 816,750,000	26,782
Mississippi	1,018,000	\$ 428,036,000	17,721
Montana	372,000	\$ 193,610,000	4,845
New Hampshire	322,000	\$ 88,770,000	2,630
New Jersey	1,508,000	\$ 885,400,000	25,909
New York	2,312,000	\$1,074,445,000	27,894
North Carolina	1,732,000	\$ 901,484,000	33,636
Oklahoma	1,086,000	\$ 441,227,000	13,418
Pennsylvania	1,626,000	\$ 769,088,000	24,650
Texas	3,173,000	\$1,886,853,000	60,329
Utah	433,000	\$ 169,646,000	5,930
Virginia	1,270,000	\$ 492,804,000	15,662
West Virginia	462,000	\$ 113,517,000	2,591
Wisconsin	1,872,000	\$ 707,477,000	26,579

Food Industry Environmental Council ● 1764 Old Meadow Lane, Ste. 350 ● McLean, VA 22102

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May 12, 1993

The Honorable Douglas Applegate  
Chairman, Subcommittee on Water  
Resources and Environment  
Committee on Public Works and Transportation  
United States House of Representatives  
B370-A Rayburn House Office Building  
Washington, D.C. 20515

Dear Mr. Chairman:

On behalf of the members of the Food Industry Environmental Council (FIEC), we appreciate the opportunity to provide input for your consideration as the Subcommittee on Water Resources and Environment addresses reauthorization of the Clean Water Act (CWA). We respectfully request that this submission be included in the record pertaining to the recently concluded Subcommittee hearings on this issue.

Overview

FIEC is comprised of national food manufacturing and processing trade associations and individual companies. Together, the Council represents approximately 15,000 companies which employ more than 1.4 million people and are responsible for approximately \$121 billion of sales annually. FIEC has been formed to support sound, effective environmental policies and to coordinate the activities of its members, particularly as these activities relate to reauthorization of the CWA.

FIEC's objective is to serve as a resource to Congress to provide any necessary data regarding the processes used in the manufacture and delivery of food as related to CWA considerations. In addition, FIEC will evaluate any proposed legislative amendments to determine their potential impact on the continued safety and availability of the nation's food supply. Therefore, we hope that our comments will serve as the first step in a continuing dialogue during your deliberations of CWA reauthorization.

FIEC supports Congressional efforts to ensure that this nation's waters are clean and protected. It is essential to the companies represented by this Council that a continuous supply of clean water be available for use in food processing. It also should be recognized that the food processing industry has invested millions of dollars in pollution control technology to protect our waters, and along with other industries, has improved water quality significantly. For example, the loadings of conventional and toxic

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pollutants to surface waters have been reduced by over 90 percent since the implementation of the National Pollutant Discharge Elimination System (NPDES) permitting program and the National Pretreatment Program. Progress will continue to be made under existing law.

FIEC's primary message as you begin considering reauthorization of the CWA is that, overall, the Act is working quite well. Perhaps some fine-tuning may be appropriate, but a wholesale rewrite of the legislation is neither warranted nor desirable.

#### Legislative Goals

It is a goal of the Council to ensure that there is an adequate supply of clean water for use in providing consumers with safe and nutritious processed food at reasonable prices. As you evaluate various proposed amendments to the Act, we urge you to consider the following guiding principles:

- o Based on sound scientific data, any proposed amendment should improve water quality significantly, fairly, flexibly, and cost effectively.
- o Any proposed amendment should not affect food safety adversely or contradict current food safety regulations.
- o Any proposed amendment should not contribute to the need for an increase in the price of the food supply.
- o Any proposed amendment should not cause a loss of jobs.

FIEC believes all amendments should be evaluated against these principles.

The Council believes that any proposed changes to current regulations should be based on a risk-based approach that is grounded on sound and appropriate scientific analysis. Only those amendments which ensure cost-effective and efficient solutions to any problems presented, or not addressed, by the current regulations should be adopted. This fine-tuned approach must recognize and evaluate industry specific needs. For example, any wholesale prohibition of certain chemicals for all industries would not be desirable. This is certainly the case with some disinfectants, which may be dispensable in some industries, but which are essential to food processors for ensuring the safety of the food supply by maintaining a contaminant-free workplace. In fact, regulations promulgated by the Food and Drug Administration (FDA) and the U.S. Department of Agriculture (USDA) stipulate that certain chemicals can and should be used in food plants for sanitation and other purposes.

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In addition, any revisions to the CWA should be consistent with other environmental programs and should not create cross-media environmental problems. The solution to water pollution problems for example, should not create new solid waste or air emission problems.

#### Legislative Suggestions

FIEC recognizes that, while this country has made substantial progress toward improvement of water quality, more can and should be done to accomplish the goals of the CWA. Specifically, legislative proposals should embody provisions to ensure adequate funding of ongoing programs, particularly the National Pretreatment Program, the Non-point Source Pollution Program, and Control of Combined Sewer Overflows. Adequate funding of these programs would provide continued cost-effective improvements in water quality.

Moreover, a major revamping and revision of the CWA presently is not needed and would be counterproductive to the continued progress being made under the existing program. Dramatic changes to the Act are not needed particularly since most of the proposed changes, if adopted, would result in significantly increased regulation, spending, administrative burdens, and costs without achieving significant public health benefits and enhanced environmental quality.

Based on FIEC's review of several proposals put forth during the last session of Congress, we offer the following specific comments on provisions that might be under consideration by the Subcommittee:

- o Conventional Pollutants. The current technology controls on conventional pollutants are adequate and should be retained. Additional restrictions on conventional pollutants would not be cost-effective and would not result in any significant improvement in water quality. Accordingly, the current effluent guidelines for conventional pollutants should not be modified. The Council also recommends that ammonia and chlorine be retained as non-conventional pollutants contrary to some suggestions that these two chemicals should be added to the list of toxic pollutants. The weight of scientific evidence does not support the inclusion of these chemicals on the toxic pollutant list. Inclusion of ammonia and chlorine on the toxic pollutant list would add substantial cost to industries and municipalities, without associated environmental benefits.
- o Water Quality Standards. Water quality standards should reflect efficient resource allocations on a site-specific basis and should result from a consideration of the costs and benefits of associated controls. It is necessary to recognize that the goal of fishable and swimmable waters, as contained in the original Act, may be unrealistic for all waters and would result in an inefficient allocation of resources.

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- o Water Quality Monitoring. Water quality monitoring requirements, while important, should focus on generating useful and not excessive data and should be industry-specific.
- o Pretreatment. There have been some suggestions that indirect dischargers should be required to meet the same effluent levels imposed on direct dischargers, and that indirect dischargers should receive NPDES permits. The Council suggests that this requirement would increase the financial, technical, and administrative burdens on both industry and the regulators, with no significant improvement in POTW performance. The Council encourages Congress to fund adequately the National Pretreatment Program and allow adequate time for it to be effective before enacting any additional, and perhaps unnecessary requirements.
- o Permit Fees. Permit fees should be reasonable and fair. The Council urges Congress to consider an equitable funding mechanism. Since water quality permit programs benefit the public as a whole, funding these programs should not burden unduly any one segment. Therefore, the Council urges that public funds generally be used to finance federal and state water quality programs.
- o Toxics Use. During the last session of Congress, mandatory toxics use reduction was contemplated, including required changes in production processes, products, or raw materials that would eliminate the use of toxic substances. FIEC believes Congress should reject any such proposal. Toxics use reduction should be voluntary and should not be micro-managed by EPA. Individual companies, not EPA, should determine what production processes will be used in their facilities taking into account many factors, such as product quality, safety and other resource conservation and environmental pollution concerns. EPA is not in a position to make those decisions for the thousands of facilities subject to effluent guidelines, nor should any government agency be given such responsibility. Companies are keenly aware of the multimedia impacts in the cost of environmental planning decisions and already consider these issues in their plans. Legislation including these mandates simply is not needed.

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- o Audit Programs. The Council urges Congress to encourage the use of audit programs which would avoid the threat of public disclosure and prosecution for efforts to correct identified problems.

#### Conclusion

FIEC suggests that Congress should be guided by the fact that substantial progress has and continues to be made in improving water quality. Any proposed changes to the current CWA programs should be evaluated thoroughly using cost-benefit analyses to assess their efficacy and to determine if they are necessary. Changes that have the potential to affect adversely food safety and supply of this nation's processed foods should be rejected.

The Council appreciates the opportunity to provide these comments and looks forward to with you and other Subcommittee members during the reauthorization process.

Sincerely,

American Bakers Association  
American Frozen Food Institute  
American Meat Institute  
The Biscuit and Cracker Manufacturers'  
Association  
Chocolate Manufacturers Association  
Grocery Manufacturers of America  
International Dairy Foods Association  
National Broiler Council  
National Confectioners Association  
National Food Processors Association  
National Pasta Association  
National Soft Drink Association  
Snack Food Association

cc: Subcommittee on Water Resources  
and Environment



**AGRICULTURAL RETAILERS ASSOCIATION**

Testimony of

**John (J.I.) Lewis  
President  
Belmont Mills  
Belmont, Ohio**

on behalf of

the

**Agricultural Retailers Association**

regarding

**Nonpoint Source Agricultural Pollution**

and

**Reauthorization of the Clean Water Act**

before the

**Subcommittee on Water Resources  
Committee on Public Works and Transportation  
U.S. House of Representatives**

**April 22, 1993**

**Testimony of John (J.I.) Lewis  
Belmont Mills  
Belmont, Ohio  
on behalf of the  
Agricultural Retailers Association**

**April 22, 1993**

**Introduction**

Mr. Chairman and members of the Subcommittee, my name is John Lewis and I am President of Belmont Mills, a retail outlet of fertilizers, pesticides, seed, and feed in the 18th Congressional District of Ohio. Mr. Chairman, Belmont Mills has been serving farmers in Belmont, Harris, Jefferson, Monroe, Noble, and Gurnsey counties in your district since 1900.

I am also very pleased to be representing the Agricultural Retailers Association or ARA today. ARA was formed just last year to represent the unique interest of retail dealers of farm supplies across the United States. Today, ARA represents over 5,000 farm supply outlets that market well over 80 percent of the fertilizers and crop protection chemicals sold annually in the U.S. The topic of this hearing is of significant interest to my business, my customers, and American agriculture.

Today I would like to discuss the issue of non-point source agricultural pollution from the standpoint of my business in addition to voluntary industry initiatives and actions to reduce fertilizer and pesticide runoff from farms. Further, I would like to discuss current regulatory requirements and programs aimed at agricultural nonpoint sources and then conclude with an overview of pending legislation and suggestions for future action. Since my primary business is not keeping up with all the new regulations and legislation, I am accompanied here today by Chris Myrick, Director of Government and Environmental Affairs for ARA, to help answer specific regulatory and legislative questions that this subcommittee might have.

### **Industry Efforts to Reduce Nonpoint Source Runoff**

The agricultural industry has made tremendous strides, especially in the last few years, to voluntarily adopt new management practices and application technology that reduce the potential for nonpoint source pollution. I believe that the increased adoption of these new measures has significantly impacted this issue.

Following, I have listed some of the agronomic practices that are currently being undertaken by the agricultural industry that impact the nonpoint source issue. I hope that this subcommittee will take note of what our industry is doing without government regulation.

#### **Precision Application of Fertilizers and Pesticides**

##### Variable Rate Technology

The last five years has seen a tremendous increase in the use of variable rate technology for the application of both fertilizers and pesticides. Variable rate technology targets specific plant needs with regard to nutrients and pesticides to insure proper application. From a financial standpoint, no agricultural producer wants to over-apply products because of the increased per acre production cost, so retail dealers, as an environmental and economic service to their farm customers, are increasingly recommending and using this technology.

In practice, variable rate technology requires retail dealers to work closely with producers to establish a realistic yield goal based on historic Agricultural Conservation and Stabilization Service (ASCS) yield records, nutrient needs as established through soil sampling and soil type, and plant/pest populations. Only the fertilizer and pesticides needed are applied to reach these yield goals. In many cases, less fertilizer is applied to fields than has been removed by the crop in question.

Even higher technology approaches are now coming onto the market which result in the use of variable rate technology during application. For example, a patented site-specific liquid or dry application system called "Soilection" recognizes nutrient needs of varying soil types and varies blend and rate of application while the application equipment is actually going over the field. Using systematic soil sampling and digitized mapping along with Soilection, only the necessary amount of fertilizers are applied to the field, eliminating over application of fertilizers which may result in excess fertilizers turning into a nonpoint source problem.

#### Other New Methods of Application

New methods of application are being rapidly adopted by farmers as a way of addressing environmental concerns and increasing profitability. For example, the use of starter fertilizers has had a renewed interest, particularly with the increase in no-till, which results in decreased sediment, nutrient, and pesticide run-off.

Herbicide applications are gradually shifting from broadcast preplant to postemergence applications after the crop and weeds have emerged. This production practice is good because you know what weeds you have to control and specifically apply for those weeds. In addition, many growers are spot treating acres where certain weeds are a problem instead of blanket applying pesticides to a entire field. These practices result in decreased use of pesticide products therefore reducing the chances of nonpoint source run-off.

#### Increased Field Scouting and Soil Sampling

Because of increased environmental concern about the use of fertilizers and pesticides, many dealers are increasing the agronomic services they provide along with the sale. Services specifically include soil sampling, crop scouting, and product recommendations based on research which insures that the right products are being used at the absolute minimum rate.

As a result of increased agronomic services, dealers have actually seen a decrease in the use of fertilizers and pesticides by farmers participating in dealer provided agronomic programs. Some may doubt this claim based on the fact that dealers are selling fertilizers and pesticides for a profit, but what the nay-sayers forget is that dealers operate in a competitive environment. Dealers compete for the business -- so dealers who can provide inputs leading to the best crop at the cheapest cost win the farmer's business.

#### Custom Application

Of all the new technologies and management methods which enhance environmental protection, custom application is the most widely adopted. Custom application basically amounts to a farmer contracting with a professional custom applicator to apply pesticides, fertilizers, or both to their fields. The end result of using custom application is that a farmer gets more accurate application conducted by a professional. In the majority of cases and at my dealership, applicators are licensed under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and as of yesterday, all applicators must be trained and in compliance with the Environmental Protection Agency's Worker Protection Standard.

In my business, I custom apply for many of my farm customers. Because custom applicators are more highly trained and experienced than farm applicators in most situations, custom application reduces the chance of nonpoint source pollution due to more accurate application, use of better equipment, and reduced over application.

#### Additional New Technologies

New products, technologies and management practices abound for protecting the environment from agricultural runoff. For example, many new pesticide products have been introduced during the last few years which result in reduced application, faster degradation, and decreased likelihood of being a contributor to nonpoint source pollution. In addition, Integrated Pest Management Strategies (IPM) and Best

Management Practices (BMP) include a host of management practices which reduce the use of pesticides and fertilizers, including those I have already mentioned.

Herbicide resistant crops and biotechnology, which use pheromones to disrupt insect reproductive cycles for example, are all advances which are addressing the environmental concerns brought before this subcommittee. Finally, the use of Global Positioning Systems (GPS) provide specific field position which allows for precise application. You can't get much more high-tech than using satellites, computers, grid-soil sampling, and precise application equipment in unison to address nonpoint source problems on the farm.

In short, the agricultural industry is addressing, and I might add successfully, environmental concerns, which include nonpoint source pollution, through the adoption of new technology.

#### **Residue Management**

There has been a literal revolution in the use of residue management on U.S. farms. Residue management is important to point out because of its effectiveness in eliminating sediment, nutrient, and pesticide run-off which may result in non-point source pollution to our nation's waters.

In 1989, of the total 279,654,989 acres planted, 71,733,086 or approximately 26% used no-till. In 1992, approximately 32% used no-till. An increase in no-till use of approximately 6% of total planted acreage in 4 years is phenomenal and sends the message that agriculture is not only serious about addressing environmental concerns, it's doing something about it. Research has shown that conservation tillage on average reduces soil loss by 81%, surface run-off by 31% and soil sediment concentration by 66%. Currently, more than 98% of highly erodible soils are covered by a Department of Agriculture Conservation compliance plan.

It is important to note the studies that have shown that reductions of the direct transport of nitrogen and other elements to surface water is attained by control of soil erosion. Run-off water containing no soil has very little nitrogen. Further, no-till greatly reduces the chance that pesticides will end up in our surface and groundwater as a result of erosion or water run-off.

### **Certified Crop Advisor Program**

Research has indicated that nonpoint source contamination may result from poor handling and application practices by farmers or custom applicators. In order to reduce potential problems, the Certified Crop Advisor (CCA) program has been developed by the American Society of Agronomy (ASA) to improve the quality and consistency of information farmers receive from crop input advisors. The goal of the program is to give agriculture a tool for addressing environmental issues such as water quality, soil loss and integrated pest management.

Each applicant for certification must have at least 2 years of crop advising experience and a BS degree in agriculture or 4 years of crop advising experience. The national exam includes some 200 questions regarding soil fertility, soil and water management, pest management, and plants and plant growth. Further, the applicant must pass a State specific examination.

Currently, a Certified Crop Advisor (CCA) program is in place in the States of New York, Pennsylvania, Ohio, North Carolina, Indiana, Illinois, Minnesota, Iowa, Missouri, Arkansas, Mississippi, Alabama, Kansas, Nebraska, Montana, Idaho, Washington, Oregon, and California. By August of this year, CCA Boards will be in place in the states of Vermont, Michigan, Wisconsin, Kentucky, Tennessee, Georgia, Oklahoma and Texas.

The CCA program is a prime example of how the agricultural industry is addressing the nonpoint source pollution issue and other environmental concerns voluntarily.

### Pollution Prevention Initiative

On April 14, 1992, the EPA and Department of Agriculture announced a Memorandum of Agreement (MOA) to implement increased pollution prevention in the agricultural sector. The MOA puts into place a plan to address agriculturally related environmental problems.

The agreement outlined four basic strategies to achieve environmental results which include:

1. implementation of a nationwide pollution prevention program;
2. establishment of a coordinated research and technology development and transfer system;
3. implementation of a comprehensive marketing strategy to promote voluntary pollution prevention; and,
4. a strengthened working relationship between EPA and USDA, using existing programs, voluntary initiatives, and regulatory programs.

The following five areas, with appropriate measurable goals, have been targeted for emphasis:

1. Nutrient Management -- developing recommendations for the establishment of a voluntary nutrient management program
2. Total Resource Management Planning -- establishing guidelines for site-specific farm and ranch plans designed to address environmental concerns while maintaining efficient agricultural production.
3. Voluntary Livestock or Poultry Management Agreements.
4. Safer Pesticide Registration -- instituting a policy framework and set of procedures to speed registration of environmentally safer pesticides.
5. Voluntary Action Projects in Selected Watersheds -- assisting local leadership in setting criteria and establishing agreements to achieve measurable environmental improvements

Even though ARA is supportive of increased public/private partnerships through the pollution prevention initiative, we have been disappointed by some of the public/private meetings that have taken place to date on this issue. Since the MOA was signed, ARA has participated in three meetings covering adoption of Integrated Pest Management (IPM), reduced risk pesticides, and watershed protection.

For example, during the National Integrated Pest Management Forum held in Washington D.C. on June 17-19, 1992, ARA and farmer participants offered several suggestions that would speed adoption of IPM through the Pollution Prevention Initiative. Since the forum's main purpose was to establish proposals to further the adoption of IPM, a vote was taken among forum participants to determine the primary focus of future efforts to increase IPM adoption. Unfortunately, input from ARA was ignored and farmer representation at the meeting was so small that their input was minimal (Note: Of the 346 listed attendees of the IPM forum, only 8 were farmers).

How can the government expect agriculture's adoption of IPM programs if its input is not considered? One farmer at the IPM forum stated, "You cannot decide National IPM policy from the top down... it must come from the bottom up". Increased participation of the agriculture sector residing outside the beltway is needed in these types of positive programs to insure success and reduced nonpoint sources of pollution emanating from agriculture

ARA recommends that from this point on, the USDA and EPA include private industry from start to finish in the process of writing implementation plans for meeting the goals of the Pollution Prevention Initiative. This entire issue is too complicated and important not to include those actually impacted

#### **Government Regulations and Programs aimed at Nonpoint Source Pollution**

Numerous federal programs are aimed at addressing nonpoint source pollution emanating from agricultural production. However, under funding, lack of coordination,

and bureaucratic roadblocks have resulted in delayed implementation and non-attainment of objectives. Following is a brief summary of federal programs aimed at nonpoint source agricultural pollution.

#### Clean Water Act and Section 319

In 1987, Section 319 was added to the Clean Water Act. This section requires states to submit an assessment report to the EPA that:

1. Identifies state water not meeting water quality standards because of nonpoint source pollution.
2. Identifies the general and specific nonpoint sources causing problems.
3. Describes processes for identifying best management practices that can address the identified problems.
4. Identifies programs for controlling nonpoint source pollution.

To date, all states have approved section 319 assessments and management programs. However, under funding has delayed implementation of this program. Programs instituted under Section 319 of the Clean Water Act need full funding and time to work.

#### Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) of 1990 gives authority to Coastal states for the development and implementation of management plans aimed at reducing nonpoint source pollution. In early January of this year, two guidance documents were issued by the EPA and NOAA which create a Nonpoint Pollution Control Program specifically aimed at fertilizer and pesticide use in agriculture.

Through CZMA, States have increased authority to implement nonpoint control measures beyond existing provisions of Section 319 of the Clean Water Act. State management measures under CZMA target specific problem areas, allowing for a more reasonable approach to the nonpoint source issue.

### Department of Agriculture Programs, Plans, and Research

Currently, there are many USDA programs which impact the agriculture sector with regard to nonpoint source pollution. Without going into specific detail on each programs, I would like to list 15 plans implemented under the USDA which relate to soil and water conservation and other environmental programs. These plans are as follows:

1. Voluntary Conservation plan
2. Conservation Compliance plan
3. Conservation Reserve plan
4. Agricultural Conservation Program Long Term Agreement
5. Water Quality Incentive Program plan
6. Long Term Contract under Land Treatment Watersheds (PL566)
7. Great Plains Conservation Program plan
8. Wetland Reserve Program plan
9. Water Bank Program plan
10. Integrated Farm Management plan
11. Stewardship Incentive Program plan
12. Wetland Mitigation & Restoration plans
13. Water Quality Plans in Hydrological Unit Areas
14. Colorado River Salinity Program plans
15. Rural Clean Water Program plans

### State-Implemented EPA Programs

There are also several state-implemented EPA programs which address water protection. These programs include the recently finalized Comprehensive State Groundwater Protection Program, Wellhead Protection Program (25 states approved), Safe Drinking Water Program, and finally, State Management Plans issued under the EPA's Pesticides in Groundwater Strategy which was released in 1991. All of these programs address nonpoint source pollution.

### President's Water Quality Initiative (WQI)

The President's Water Quality Initiative (WQI) called for a vigorous effort to protect ground and surface water from contamination by agricultural chemicals, commercial fertilizers, and waste, especially pesticides and nutrients. The WQI program is being implemented over 5 years, starting in 1990, through three types of programs. These

programs include demonstration projects, hydrologic unit area initiatives and the Agricultural Conservation Program Water Quality Special projects.

#### Other Federal, State, and Local Water Quality Programs

In addition to the numerous federal programs and initiatives I have already mentioned, there are numerous other programs that address the agricultural nonpoint source pollution issue. Clearly, this issue is not being ignored.

#### **Other Nonpoint Source Related Government Programs and Regulations**

##### FIFRA 88

As a result of amendments to the Federal Insecticide, Fungicide, and Rodenticide Act in 1988 (FIFRA 88), retail dealers across the United States will be investing well over \$1 billion dollars to build secondary containment for bulk pesticide storage and more environmentally sound pesticide warehouses by 1997. ARA thinks that this investment is significant in the fight to address both point and nonpoint source water quality concerns because research has indicated that there is a direct correlation between ground and surface water detects of pesticide and fertilizers and retail dealer facility mixing and loading sites. Many states are also adopting bulk fertilizer containment regulations. Secondary containment, mix and load pads, and improved warehouses will eliminate this potential source of contamination.

##### Stormwater Permitting Requirements

Stormwater permitting impacts many retail dealers who mix and blend substantial amounts of fertilizers. Upon implementation of the full stormwater permitting requirements and controls run-off into streams and rivers will be further limited.

##### Effluent Guidelines for Pesticides

The EPA is currently in the process of writing effluent guidelines for bulk repackagers of pesticide products at retail facilities. Even though retail dealers reuse, instead of release,

pesticide contaminated rinsate, we fully expect that the EPA will issue a zero release threshold for retail facilities in 1995.

#### SARA Title III

The Superfund Amendments and Reauthorization Act (SARA) Title III Community Right-to-Know reporting requirements allow for the institution of even greater control of point source releases at retail establishment that may result in what is considered a nonpoint source. In addition, proposed expansion of the program may allow for even greater regulatory control in the future.

#### FIFRA Registration & Re-registration

The development and use of pesticides in America are highly regulated through FIFRA's registration, reregistration and special review process. In fact, the most expensive and complex studies undertaken to register a pesticide are with respect to water quality and aquatic life. Pesticide registration takes between 8 to 10 years and \$35 to \$50 million dollars before a product can reach the market.

With proper handling, the use of pesticide products does not pose an environmental concern. ARA and our industry are working extremely hard through voluntary programs and the adoption of new regulations such as the Worker Protection Standard to insure proper handling of pesticides.

#### Clean Air Act

The 1990 Clean Air Act will also impact nonpoint source pollution through controls of pesticide and fertilizer application and storage. Management practices currently being considered by the EPA include changing pesticide formulations and application practices which will directly impact the probability of nonpoint source contamination and fertilizer manufacturer controls.

### Remediation Efforts

ARA is working closely with the EPA's Cincinnati Research Laboratory to develop pesticide and fertilizer remediation technologies that will allow for the timely cleanup of pesticide spills and long term contamination. Instead of waiting years while the court system battles over Superfund liability, for example, new biotechnologies are being developed and used that allow for the cleanup of contaminated soil and water, eliminating the chance of point and nonpoint source pollution emanating from dealer and farm sites. In fact, just last week a major breakthrough in biotechnology as it relates to pesticide cleanup was made by Dupont.

### **Evaluation of Legislative Proposals**

#### "Draft" Nonpoint Source Water Pollution Prevention Act of 1993

Even though ARA has had only a limited amount of time to evaluate Representative James Oberstar's (D-MN) draft legislation entitled the Nonpoint Source Water Pollution Prevention Act of 1993, I would like to provide some very general comments on the draft. Representative Oberstar's bill represents an important effort to address the nonpoint source issue, however, the current vagueness of its language could place tremendous burdens on agricultural producers in effected watersheds that are already on the economic brink of disaster.

The overall construction of the legislation is, in ARA's view, a positive step forward, but duplicative of current CWA Section 319 program authority and CZMA initiatives. Targeting specific impaired watersheds and giving credit to farmers participating in Farm Bill, Coastal Zone Management Act, and Chesapeake Bay programs is the first step forward in balancing this very complex issue. However, a lack in legislative details leaves the door wide-open for future watershed management programs that place an unreasonable burden on the agricultural sector. Because of the importance of

agriculture, any nonpoint legislation should clearly establish regulatory limits and take into account the economic impact that such regulations will have on agriculture.

The draft legislation would require that States revise Section 319 management programs, prioritizing 5 target watersheds. Of concern to ARA is the fact that the bill gives very broad authority to States, with limited public input, for defining the prioritization criteria while imposing no limit on the strictness of enforceable standards. Further, designation of five separate watersheds seems to incriminate watersheds that are not in the first priority group requiring site-level management plans.

It is clear that more time and "impacted" public input be given before development of the proposed management programs. Since the draft legislation calls for full restoration and protection within 4 years, this proposal could severely impact the agricultural sector unless some flexibility is built in.

The penalties proposed in the draft are also severe. For watersheds not meeting the goals of full restoration and protection within 4 years, additional management measures and site-level programs would be instituted. In other words, the watersheds covered by the site-level programs could include not only those in the first priority group, but all five targeted watersheds. Every agricultural producer in the state could be required to institute a very stringent site-level plan within four years of this Act's implementation.

The draft legislation also sets out policy for water quality criteria, anti-degradation, and new sources which gives regulators unlimited authority to establish water quality criteria that may be unattainable for agriculture. In addition, the draft explicitly directs the EPA Administrator to target fertilizer and pesticide products when establishing parameters associated with degradation without justification. In reality, the draft legislation is like a trap, it baits you inside the trap with seemingly reasonable programs, then slams the trap door shut behind you when it steadily ratchets down requirements and expands the scope of the program to the point that farmers could not meet the requirements without negative economic impacts to their businesses.

Finally, the Citizens Watershed Monitoring Program is a nightmare in the making. ARA is opposed to the establishment of a citizen monitoring group because of the potential problems it will create. How will these programs screen out citizens with an "ax to grind" or special interest to promote? Who is to be held accountable when a citizen reports a problem that's not a problem, ruining a reputation and business? Most government regulators don't know the requirements of the programs they implement full-time, how can we expect citizens to properly monitor watersheds with all of the accompanying complex requirements? In short, this program is a very bad idea.

#### **ARA Suggestions for Nonpoint Source Pollution Legislation**

As I have pointed out in my testimony up to this point, agriculture is not ignoring or failing to address the nonpoint source pollution issue as it pertains to production agriculture. Whether it be voluntary adoption of new technologies and management practices or participation in an existing government program aimed at this issue, agriculture, especially in the last five years, has made tremendous strides at adopting management practices that reduce nonpoint source pollution.

If you look at what agriculture is doing voluntarily and the poor funding and administration of nonpoint source government programs in the past, it is hard for me, as a taxpaying citizen, to sit here and suggest that our government spend more money establishing new programs. When you take into consideration the cumulative "negative" impacts that the Clinton Administration budget will have on agriculture and also take into account the 200% regulatory compliance cost increase that the retail agribusiness industry already faced before President Clinton took office, it is clear that the government is trying to cut off the hand that feeds it. Instead of stopping here however, I would like to take a moment to make some recommendations for future action.

#### **RECOMMENDATIONS**

##### Coordination of Existing Federal, State, and Local Programs

In preparing to provide testimony today, I was astounded by the sheer number of

existing and overlapping government programs that are aimed at addressing the nonpoint source issue. The very first step that this subcommittee should take is to develop a plan for coordination of existing programs that best address this issue. Mr. Chairman, I think it is a mistake to propose and pass legislation mandating another layer of federal programs that will go under funded or impose a negative economic burden on our rural communities without first understanding what we are currently doing and the ramifications of what we want to do.

#### Accounting for Private Industry Initiatives

One of government's most critical failures in all areas is not taking into account what private industry is doing to voluntarily address environmental issues as they arise. Many environmental advocacy groups assert that private industry will do nothing for the environment unless forced to do so by some government regulation. This assertion is untrue.

Instead of making the worst case assumptions and writing them into law, I hope that this subcommittee will take into consideration my statements today concerning adoption of new management practices, application technology, and voluntary industry efforts to do a better job of providing sound fertilizer and crop protection chemical recommendations. I think that if this subcommittee will look at this issue, not strictly from a government program perspective, you will discover more has been done to address the nonpoint source issue through private industry efforts than through government mandated programs

#### Fully Fund Programs After Peer Review

After an evaluation of existing programs, ARA suggest that Congress fully fund programs that are deemed beneficial. For too long, Congress has tried to fix programs that are not working by establishing new programs. It's time to stop wasting taxpayer money developing new ones. Fully fund Section 319 and Coastal Zone Management Programs.

### Voluntary and Flexible Approach

Because soils, climates, crops and a host of other important factors impacting nonpoint source pollution differ from farm to farm, watershed to watershed, and State to State, it is extremely important that any new approaches to this issue are flexible. Any new legislation should allow for strategies to be developed on a hydrologic unit, watershed-wide basis and allow for individual farm flexibility.

Finally, forcing farmers to adopt specific nonpoint source management measures will only result in increased hardship on our endangered rural american communities. ARA recommends that future programs rely heavily on education, technical assistance, adoption of voluntary management measures and incentives for producers to participate.

### **Conclusion**

Mr. Chairman and members of the subcommittee, I would like to thank you for the opportunity to appear before you today to address the nonpoint source issue. I would be happy to answer any of your questions at this time.

## AMERICAN OCEANS CAMPAIGN

TESTIMONY  
OF

AMERICAN OCEANS CAMPAIGN,  
AMERICAN PLANNING ASSOCIATION,  
COAST ALLIANCE, and the  
NATIONAL COASTAL CAUCUS:

North Carolina Coastal Federation, Albemarle/Pamlico Sound;  
Coalition for Buzzards Bay, Buzzards Bay;

Conservation Law Foundation of New England, Casco Bay;

Baykeeper and Friends of Casco Bay, Casco Bay;

Chesapeake Bay Foundation, Chesapeake Bay;

Delaware Riverkeeper, Delaware Bay;

Save Wetlands and Bays, Delaware Inland Bays;

Galveston Bay Foundation, Galveston Bay;

Save the Harbor/Save the Bay, Massachusetts Bays;

Save the Bay, Narragansett Bay;

Baykeeper and American Littoral Society, New York-New Jersey Harbor Estuary;

People for Puget Sound, Puget Sound;

Puget Sound Alliance, Puget Sound;

Puget Soundkeeper, Puget Sound;

Save San Francisco Bay Association, San Francisco Estuary; and

Heal the Bay, Santa Monica Bay

BEFORE THE  
UNITED STATES HOUSE OF REPRESENTATIVESCOMMITTEE ON PUBLIC WORKS AND TRANSPORTATION  
WATER RESOURCES SUBCOMMITTEE

ON

PROTECTING AQUATIC ECOSYSTEMS  
WITHIN THE  
CLEAN WATER ACT REAUTHORIZATION

H.R. 1720 -- DeLauro-Lowey Water Pollution Control and Estuary Restoration Financing Act  
H.R. 31 -- Beaches Environmental Assessment, Closure and Health Act

April 22, 1993 -- Earth Day  
9:30 a.m.

Presented by:  
Dawn M. Martin  
Issues Director  
American Oceans Campaign

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Good morning. I wish to express my thanks to Chairman Applegate (D-OH) and the other members of the Committee for inviting us to testify on this very important issue. My name is Dawn Martin and I am the Issues Director for American Oceans Campaign and the Coordinator of the National Coastal Caucus. American Oceans Campaign (AOC) is a national organization dedicated to conserving and enhancing our nation's oceans and coastal resources<sup>1</sup>. The National Coastal Caucus (NCC) is a coalition of regional environmental organizations working collectively to fight pollution and habitat destruction in our oceans, bays, beaches, and wetlands.<sup>2</sup> My comments today are on their behalf and on behalf of the American Planning Association and Coast Alliance.

## INTRODUCTION

Since the original Federal Water Pollution Control Act (Clean Water Act) was signed into law its provisions have been revised on numerous occasions. With each reauthorization, Congress has strengthened protections for our coasts from pollution. As the 103rd Congress is faced with this same daunting task, we believe that the critical state of our nation's aquatic ecosystems and our global environment demand passage of even greater protections.

Citizens of this nation are becoming increasingly aware of the value of our earth and its abundant, yet limited, resources. According to a 1991 Gallup poll, approximately two-thirds of the U.S. public is "greatly concerned" (the highest rating) about the contamination of drinking water and pollution of our lakes, rivers, and beaches.<sup>3</sup> Even in light of the extreme financial restrictions currently facing our state and federal treasuries, the public has consistently called for increased environmental protections, while acknowledging the high cost of some of these programs. Similarly, the Wirthlin Group conducted a poll in July of last year which found that 80 percent of the U.S. public think "protecting the environment is so important that requirements and standards cannot be too high, and continuing environmental improvements must be made, regardless of cost."<sup>4</sup>

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<sup>1</sup> AOC is a non-partisan, non-profit organization founded in 1987 and dedicated to the restoration and preservation of the world's oceans. Our efforts are rooted in the premise that the earth's environment is dependent upon healthy oceans. Our mission is to work to protect the vitality of coastal waters, estuaries, bays, wetlands, and deep oceans. We accomplish this goal by educating the public and decision-makers on the need to protect our marine resources. We focus on strengthening public policy to protect our marine resources, and we believe that strong grassroots input and sound scientific information are the key ingredients to making effective public policy.

<sup>2</sup> In February, 1991 AOC convened a gathering of geographically diverse, regional environmental organizations with national reputations. The result of that meeting was the formation of the National Coastal Caucus. The purpose of the NCC is to build a powerful and united voice of coastal experts, committed to the enactment of strong national coastal pollution legislation, and specifically to strengthen the Clean Water Act. The positions taken by the NCC are based on the experience and expertise of those who have implemented and enforced the Clean Water Act at the local level.

<sup>3</sup> Americans Report High Levels of Environmental Concern, Activity, Graham Hueber, The Gallup Poll News Service (April 1990).

<sup>4</sup> Environmental Concern Still High after Rio Summit, Christine Keilpinski, The Wirthlin Group and Susan Wysoki, Hill and Knowlton; the Wirthlin Report (July 1992).

Clearly, the public sees the potentially disastrous short and long-term environmental, social and economic costs associated with delaying the implementation of environmental protections. They realize that it is more costly to deal with environmental problems with a band-aid approach than it is to address them through a comprehensive and strategic planning process aimed at cleaning up and preventing pollution. Therefore, as you reauthorize the Clean Water Act (CWA), we encourage you to move ahead with confidence that the public solidly supports strong and enforceable legislation.

## PROTECTING AQUATIC ECOSYSTEMS

*"Aquatic ecosystems worldwide are being severely altered or destroyed at a rate greater than that at any other time in human history..."*<sup>5</sup> Protection on a "systems basis" of the functions of aquatic ecosystems such as pollution control, fisheries and wildlife support, floodwater storage and groundwater recharge have been largely ignored. Historically, resource management has been fragmentary in its approach and has focused on artificial boundaries (such as local, state or country borders) when dealing with protection of lakes, rivers and streams, or wetlands. Generally this has been done in isolation from their regional watershed contexts and despite clear hydrological and ecological linkages calling for broader aquatic ecosystems management.

A fundamental goal of the CWA is to maintain and restore, the physical, chemical and biological integrity of the nation's waters. During the past twenty years, however, the EPA has dedicated much of its resources to development of criteria that addresses the chemical integrity of the nation's waters, primarily because wastewater management was treated as a public health concern. As a result, little attention has been paid to the physical and biological impairment of these waters. EPA's focus on reduction of chemical inputs and concentrations in the nation's waters has resulted in considerable progress towards controlling and reducing certain kinds of chemical pollution. However, it is time for the CWA to explicitly address the restoration and protection of aquatic ecosystems, recognizing that biological integrity of the nation's waters stands on equal footing with human health risk assessments. Water quality standards should use biological criteria to protect water-dependent wildlife and ecosystem health. In addition, the CWA should be amended to clarify that the Endangered Species Act and other federal environmental laws apply to state action taken under federally delegated clean water programs.

The focus of my remarks will deal with two specific pieces of legislation that we would like to see incorporated into the reauthorization of a broader Clean Water Act. The first provides a good example of aquatic ecosystem management: **H.R. 1720 -- DeLauro-Lowey Water Pollution Control and Estuary Restoration Financing Act**. The second bill acknowledges that coastal water systems are connected despite artificial boundaries and sets forth minimum national standards are necessary for providing basic protections: **H.R. 31 -- Beaches Environmental Assessment, Closure and Health Act**.

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<sup>5</sup> Restoration of Aquatic Ecosystems, National Research Council (U.S.). Committee on Restoration of Aquatic Ecosystems -- Science, Technology, and Public Policy; Water Science and Technology Board, Commission on Geosciences, Environment, and Resources. (November 1991). National Academy Press, Washington, D.C. 1992.

## BACKGROUND -- COASTAL POLLUTION

Two months after the last reauthorization of the CWA in 1987, the Office of Technology Assessment ("OTA") published an oft cited report that documents the severe threats to our coasts posed by pollution.<sup>6</sup> The report highlights the ecological and economical significance of our aquatic ecosystems. From an economic perspective, it explains that these waters harbor food species for human consumption (ie., fisheries, coastal waterfowl, and marine plants) and it points out the impact of pollution on the tourism and recreational industries. Other commercial interests such as shipbuilding, fish processing and retailing, pharmaceutical research and development, and production of other common consumer goods are also affected.<sup>7</sup>

In addition, each of these economic activities are adversely affected by waste disposal. The report estimates that industry discharges 4.9 trillion gallons of wastewater annually and that 3.6 trillion gallons of wastewater from sewage treatment plants are dumped into our coastal waters each year.<sup>8</sup> One of the report's conclusions is that *"estuaries and coastal waters around the country receive the vast majority of pollutants introduced into marine environments. As a result, many of these waters have exhibited a variety of adverse impacts, and their overall health is declining or threatened."*<sup>9</sup>

Uncontrolled urban, suburban and industrial growth are responsible for much of the pollution fouling our nation's coastal waters. According to EPA's most recent (1990) National Water Quality Inventory, at least a third of our rivers, half of our estuaries and more than half of our lakes are not meeting designated uses, meaning that they are not safe for swimming, fishing and other uses. That same inventory found elevated levels of toxic pollutants in many of our rivers, lakes and estuaries. The National Environmental Law Center estimates that at least 350 billion pounds of toxic chemicals were produced or used in the U.S. in 1988.<sup>10</sup> While the National Research Council (1984), reports that 65,000 chemicals are used by industry worldwide.<sup>11</sup> Heavy metals are also of particular concern because of their persistence and acute toxicity. These and other forms of pollution enter the marine environment through industrial and municipal discharges, urban and agricultural runoff, and atmospheric deposition, posing severe threats to aquatic habitat, including our vital fisheries and recreational resources.

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<sup>6</sup> Wastes in Marine Environments, U.S. Congress, Office of Technology Assessment (April 1987) (hereafter OTA Report).

<sup>7</sup> OTA Report, at 39-44.

<sup>8</sup> Id. at 70.

<sup>9</sup> Id. at 3.

<sup>10</sup> G. Lomas et al., "Toxic Truth and Consequences: the Magnitude of and the Problems Resulting From America's Use of Toxic Chemicals," National Environmental Law Center and U.S. Public Interest Research Group (April 1991).

<sup>11</sup> The Impacts of Ocean Dumping and Debris on the Sport Fishing Industry, Stephen H. Phillips, Sport Fishing Institute (March 1, 1990) (hereafter SFI Report) at 4.

The increasing loss of fish habitat to pollution, unplanned development and other human activities is the single largest long-term threat to the future viability of the marine fisheries of the United States.<sup>12</sup> Additionally, the loss of wetlands and other aquatic ecosystems has contributed to dramatic declines in waterfowl and amphibians. Pollutants continue to be released into our aquatic environments at levels that are toxic to aquatic species, birds, mammals and other predators that consume contaminated fish. However, many more aquatic species are threatened and endangered than their terrestrial cousins: 73 percent of mussels, 65 percent of crayfishes, 34 percent of fishes, and 28 percent of amphibians are jeopardized compared to 13 percent of mammals, 11 percent of birds, and 14 percent of reptiles. Likewise, an American Fisheries Society study found that nearly one-third of the native North American freshwater fish species are at risk.

In Puget Sound recent studies by scientists at the National Marine Fisheries Service have shown that toxicants (polyaromatic hydrocarbons and PCB's primarily) are impairing juvenile salmon's DNA, immune systems, and growth rates, all of which reduce their chances for ocean survival.<sup>13</sup> These kinds of effects suggest major impacts on populations and ecosystem communities, whereas previous studies on cancer in Puget Sound bottomfish indicated a more simple effect at the individual level. This new research is also alarming because the salmon are exposed for a very short time, only 14 days during their migration, and yet something as serious as DNA damage is occurring. And Puget Sound is not alone.

Millions of fish die annually from pollution and lack of oxygen - millions more are rendered inedible by dangerous toxics. Swimmers are exposed to bacteria and viruses from sewage and sludge discharges. Estuaries are filled with toxics that threaten the biological life cycles of both marine organisms and wildlife. The oceans are facing increased pressure from coastal development and industrialization. Coastal currents transport pollutants along the shoreline where they accumulate in organisms and are sometimes transferred to others in the food chain. Yet, we are here today to express our hope that with the strengthening of the CWA, the situation can be changed for the better.

## BEACH CLOSURES AND ADVISORIES

During 1988, the effect of coastal pollution on beachgoers was brought to national attention when medical waste began to wash up on our coastlines. The resulting beach closures cost New York and New Jersey an estimated \$2 billion in lost tourism. The media focused on the threat that toxic chemicals and marine floatable debris pose to the nation, and reported on toxic red tides, sewage spills, dead dolphins, and fishing bans. Alarming accounts explained that unseen contamination from sewage spills and polluted runoff can contain high levels of pathogens posing such health threats as hepatitis and gastroenteritis. Despite the severity of the problem,

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<sup>12</sup> Stemming the Tide: Conservation of Coastal Fish Habitat in the United States, summary of a National Symposium on Coastal Fish Habitat Conservation, Baltimore Maryland (March 7-9, 1991), compiled by Carl Safina, PhD, Ken Hinman, Project Director, (hereafter Stemming the Tide) at 5.

<sup>13</sup> The Effects of Contaminated Estuaries on Juvenile Chinook Salmon, J. Varanasi and S. Geballe, NWAFC Quarterly Report (Oct-Nov-Dec, 1991, pp.1-2).

individual beachgoers are often uninformed of the potential risks incurred by coming into contact with polluted coastal recreational waters.

The Natural Resources Defense Council released a report in 1992 that inventoried beach protection programs for 22 coastal states.<sup>14</sup> NRDC found that more than 5,000 pollution advisories and beach closures were issued between 1988 and 1991, and over 2,000 in 1991. The report also found that beach water standards, monitoring, and closure practices vary widely from state to state, and within states. Many states do little or no monitoring of beach water quality.

Regional studies have also been conducted. The 1991 Beach Pollution Report released by Heal the Bay (HTB) in Santa Monica, CA, compared nearly 18,000 bacterial samples taken from southern California beaches between January, 1989 and March, 1991 to the recreational water contact standards of the California Ocean Plan. Since the beginning of 1991, more than 78 percent of the daily samples from one location exceeded the Ocean Plan limits for enterococcus (indicating the presence of fecal matter). Although southern California beaches violate standards almost every day, the Los Angeles County Department of Health Services posted beach warnings and closures only 13 times over the period of the study.

As noted previously, the harm caused by coastal pollution extends beyond illnesses contracted from body contact or ingestion of contaminated seafood; it also poses risks to marine species and to the economy. Though it is difficult to calculate total economic losses, there are indications of wide impact. For example, the sport fishing industry which generated just under \$5 billion in retail sales during 1985, suffers significant losses from coastal pollution. One-third of the nation's remaining productive shellfish waters are closed on any given day because of pollution. Those same pollution sources cause swimmer illness, further impacting the economy through lost work days.

Because coastal tourism generates billions of dollars annually, it makes good economic and environmental sense for states to provide public health protection for coastal recreational waters. Federal guidance is needed to discourage health officials from turning a blind eye from this pollution for fear that closed beaches will deter tourists. Instead, beachgoers should be aware that beach closings indicate responsible combined efforts to protect public health. In the long term, larger coastal pollution problems -- of which beach closings are only a symptom -- must be addressed and a comprehensive remedy must be found.

#### **H.R. 31 - Beaches Environmental Assessment, Closure Health Act**

Not all states conduct water quality testing, monitoring and posting of coastal recreational waters and those that do use different standards to judge the safety of such waters. Often neighboring states have conflicting standards that would deem water safe on one side of the border and unsafe on the other, and standards sometimes differ even within states. In general, protective action taken by states is often nonexistent or sporadic.

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<sup>14</sup> Chasis, Sarah, et al., *Testing the Waters: A National Perspective On Beach Closings*, Natural Resources Defense Council (July 1992) (for copies, contact NRDC's New York office: 40 West 20th Street, New York, NY 10011, 212-727-2700).

There are essentially three main problems that stand in the way of states issuing credible and consistent beach closures and advisories. We believe that these problems could be corrected fairly easily. We, therefore, recommend the inclusion of H.R. 31, introduced by Representative Hughes (D-NJ), in the CWA reauthorization to help address these concerns.

**Problems and Potential Solutions:**

(1) The federal government has not set any guidance for developing minimum water quality standards for testing coastal recreational waters.

Solution: Set mandatory national bacterial indicator organism standards. Adequately protective minimum standards are needed for all coastal recreational waters. Public health will not be protected until there is consistency regarding the threshold beyond which exposure to bacteria is unacceptable. Where there is an impact on water quality due to heavy rainfall and the resulting polluted runoff, rainfall standards should trigger preemptive beach advisories in anticipation of high bacteria levels. In addition, local health and environmental agencies should also be advised to combine their information on water quality and pollution sources to increase the available data for implementing these programs.

(2) The federal government has not set any minimum monitoring practices to guide states in testing coastal recreational waters.

Solution: Set minimum monitoring practices. The federal government should provide guidance for states on the minimum frequency with which beaches should be tested to ensure that recreational waters are safe for swimming whenever swimming is expected to occur. Monitoring and testing protocols should reflect the degree of pollution and must be adequate enough to detect even periodic violations of the standards.

(3) The federal government has not established a national protocol for public notification of unacceptable coastal pollution levels. Local health departments and/or appropriate environmental agencies often fail to notify the public of the potential health risks from coming into contact with contaminated waters.

Solution: Establish mandatory public notification procedures in the form of beach closures and advisories when standards are exceeded. The public has the right-to-know about the safety of coastal recreational waters. When minimum pollution levels are exceeded, regardless of the source, beach closures or advisories should be issued explaining the health and environmental effects of the violation. Whenever possible, sanitary surveys should be conducted to identify the source of contamination, and to abate it (ie., combined sewer overflows, sewage spills, polluted runoff). Posting of closure and violation notices should occur at all beach access points and at the source of the pollution. Signs should explain, in all prevalent languages of the area, the type of pollution, initial level of pathogen contamination and/or the indicator densities, and its known or suspected source. A toll-free phone number to contact for more information should be included. The beach should remain posted until further sampling indicates that the health risk has subsided. In the case of a violation by a discharger, the facility should be required to post notices at the building entrances.

## NATIONAL ESTUARY PROGRAM

Estuaries form transition zones between freshwater and marine ecosystems and, as a result are among the most productive natural systems. Maintaining the health of estuaries is critical to the biological life cycles of both marine organisms and wildlife. Society also places a high value on estuarine areas as places for living, working, and recreating. Although estuaries are important to both economic development and ecological processes, they are among the most densely populated areas and are one of the nation's most highly stressed natural systems.

In spite of their high value, intense use and frequent overuse, estuaries only recently have been recognized as a unique and severely depleted resource. In addition, the problems facing our nation's estuaries have not fit into the traditional pollution control regulation and enforcement procedures. Recognizing this fact, Congress authorized the National Estuary Program (NEP) under Section 320 of the Water Quality Act of 1987. The NEP, which was modeled after the Chesapeake Bay and Great Lakes Programs, provide a successful example of watershed planning for addressing many of the complex issues that have contributed to the deterioration of our nation's estuaries. These issues include habitat protection, polluted runoff control, resource management and land-use planning.

The NEP authorizes the Environmental Protection Agency (EPA) to designate estuaries of "national significance" for participation in the program.<sup>15</sup> The EPA is then responsible for convening management conferences to address all uses that affect the restoration and maintenance of the chemical, physical and biological integrity of each estuary. Participants in each management conference include representatives of the relevant international, interstate or regional agencies, federal agencies, the Governor(s) and appropriate state agencies, local government agencies, affected industries, educational institutions, and citizens. The purpose of these five-year conferences is to develop a Comprehensive Conservation and Management Plan (CCMP) to protect and restore the water quality and living resources of estuaries. To date, actual implementation of these plans has been stymied by an inadequate federal financial commitment to the program.

The program has four tiers. Tier I was convened in 1985 through 1987 and includes the following six estuaries: Puget Sound, Buzzards Bay, Narragansett Bay, Long Island Sound, Albemarle-Pamlico Sounds, and the San Francisco Estuary. Tier II was convened in 1988 and includes New York-New Jersey Harbor Estuary, Delaware Inland Bays, Santa Monica Bay, Sarasota Bay, Galveston Bay and Delaware Estuary. Tier III was convened in 1990 and includes: Casco Bay, Massachusetts Bays, Indian River Lagoon, Tampa Bay, and Barataria-Terrebonne Estuarine Complex. In 1992, four additional estuaries were designated under the program, but were not to be convened until 1993. Tier IV estuaries include Corpus Christi Bay, Peconic Bay, San Juan Bay and Tillamook Bay.

Of these twenty-one estuaries, the Puget Sound Estuary Program, which was convened in 1985 was the first program to receive approval of its CCMP by EPA. The Buzzards Bay CCMP was

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<sup>15</sup> Federal Water Pollution Control Act §320 (a)(1), as amended.

approved by EPA last April and Narragansett Bay was approved in December. Long Island Sound has submitted its proposed CCMP for review and approval is expected in January, 1994.

During the past several years, AOC through the National Coastal Caucus, has been gathering comments on the NEP from citizens organizations that are integrally involved in their local estuary program. While working with these organizations, we developed a list of priority problems and potential solutions necessary to strengthen the program. Representatives involved in developing and implementing CCMP's from the following estuaries participated in this process: Albemarle/Pamlico Sound, **North Carolina**; Barataria-Terrebonne Bay Estuarine Complex, **Louisiana**; Buzzards Bay, **Massachusetts**; Casco Bay, **Maine**; Chesapeake Bay, **Maryland, Pennsylvania and Virginia**; Columbia River, **Oregon**; Delaware Estuary, **Delaware, New Jersey and Pennsylvania**; Delaware Inland Bays, **Delaware**; Galveston Bay, **Texas**; Gulf of Mexico Program, **Texas, Louisiana, Mississippi, Alabama and Florida**; Indian River Lagoon, **Florida**; Long Island Sound, **Connecticut and New York**; Massachusetts Bays, **Massachusetts**; Narragansett Bay, **Rhode Island**; New York-New Jersey Harbor Estuary, **New York and New Jersey**; Puget Sound, **Washington**; San Francisco Estuary, **California**; Sarasota Bay, **Florida**; Santa Monica Bay, **California**; Tampa Bay, **Florida**.

Thanks to a close working relationship with the offices of both Congresswomen DeLauro and Lowey, our concerns and suggestions moved from being simply a Congressional wish list into a very viable piece of legislation. The compilation of our comments became the basis of the NEP reforms in H.R. 1720, the DeLauro-Lowey Water Pollution Control and Estuary Restoration Financing Act (introduced as H.R. 5070 in the 102nd Congress). The bill, which was reintroduced on Monday, April 19, 1993 has secured the support of several broad-based coalitions. One such coalition, which includes labor unions, construction trades councils and environmentalists, have focused on the ability of the bill to create "Clean Water Jobs."

**H.R. 1720 -- DeLauro-Lowey Water Pollution Control and Estuary Restoration Financing Act:** The protection of estuaries and other aquatic resources is a top legislative priority for citizens around the country, as well as for the local economies that depend upon them for long-term economic growth. However, many states and municipalities possess neither the infrastructure nor the financial resources to stop the ongoing destruction of these watersheds. This legislation attempts to address that issue by recognizing that investing in healthy estuaries is tantamount to investing in jobs and a healthy economy.

The DeLauro-Lowey bill is designed to implement estuary protection and cleanup in such a way as to create jobs and foster economic growth through commitment to a strong federal-state-local partnership. According to a March 1992 study by Apogee Research, Inc. this legislation would create 800,000 to 1.4 million new jobs over the seven year life of the bill in the construction industries and industries that support these workers.

Assuring the development of the most economically and environmentally efficient plan for managing our nation's estuaries is the main goal of H.R. 1720. It is our belief that the present statutory and regulatory structure of the NEP has great merit but does not adequately deal with the complexities of the problems faced by these valuable watersheds. As a result, we have worked to ensure that this bill significantly strengthens the program and provides adequate financial resources for implementation of comprehensive management plans.

This legislation strengthens the CWA in several important ways. In particular, it will help clean up our nation's water resources by significantly increasing federal aid to states for upgrading sewage treatment plants, controlling polluted runoff, and fixing combined sewer-overflows. In addition, it reauthorizes Section 320 - the National Estuary Program, mandates implementation of CCMPs and targets State Revolving Loan Funds (SRF) for economically and environmentally efficient implementation of estuary management plans. The bill also ensures full coordination of efforts taken to carry out other requirements of the CWA and Coastal Zone Management Act.

Specifically, the legislation strengthens the planning process in such a way as to assure that management plans achieve their goals and are economically feasible, before unnecessary resources are expended. It also would create a set-aside of additional funds in the SRF program to assist states in implementing approved CCMP's. This SRF set-aside will provide funds to local economies while achieving the dual purpose of protecting the integrity of their estuaries, and creating the necessary economic base essential for continued economic resiliency.

**Problems and Potential Solutions:**

The DeLauro-Lowey Water Pollution Control and Estuary Restoration Financing Act addresses the major weaknesses in the current estuary program. It is our belief that the following solutions to these problems as outlined in the DeLauro-Lowey bill will significantly strengthen the program:

(1) After the CCMPs are developed there is no firm requirement that the plan be implemented. In addition, the planning process itself is often unnecessarily stalled and is extended beyond its five year limit. The NEP has been generally successful at identifying water quality problems, however, it is essential that the program move from the identification phase to implementing the solutions to these problems.

Solution: Mandate implementation and fixed time-frames. Section 320 of the CWA should be amended to extend the program for purposes of implementation and federal financial assistance should be provided to assist in the effort. Efficient use of the resources expended in developing the CCMPs necessitates federal support for implementing, monitoring and enforcing the plan. Deadlines are necessary to ensure that individual members of the management conference are not able to stall the entire process.

(2) The role of the EPA, as an active participant and as a coordinator of the appropriate environmental agencies, has not been consistent in each of the projects nor has its level of commitment to the NEP.

Solution: Section 320 of the CWA should require the EPA to take on a more aggressive leadership role in assisting the program to fulfill its goals. The EPA needs to take a stronger position in coordinating activities with the Governor's office and state coastal zone management offices. States should also be required to adopt the stronger (or more protective) of their own state coastal protection plans or the final CCMP. EPA's role must be consistent in all estuaries, therefore, staff and resources for some programs may need to be increased.

(3) Citizen participation during the development of the CCMPs is often inadequate, as is the funding necessary to accomplish this goal.

Solution: Increase citizen participation. Section 320 should be strengthened by requiring citizen participation in all aspects of the CCMP process. Public hearings should be held on a regular basis throughout the life of the program. Funding is needed to ensure full citizen participation and for public education efforts. Environmental organizations should be members of the estuary management conference.

(4) Due to state budget shortfalls and a lack of federal support, many states have been unable to follow through on their CCMPs; therefore, there is no guarantee that these plans will ever be implemented, monitored, and enforced.

Solution: The CWA should include a funding mechanism to ensure that the states are given federal assistance so that the CCMPs can be implemented, enforced and closely monitored. Section 320 should be amended to provide grants for innovative projects and interim actions that are not ordinarily funded under the SRF program. Title VI should also be amended to increase funding for the CWA's State Revolving Loan Funds with a set aside for implementation of CCMPs.

EPA's involvement in implementation, enforcement and monitoring is just as critical as it is in the formulation of the plans. It is imperative that access to additional resources be provided for implementation of the plans to be successful, otherwise the federal funds expended for crafting the plans will have been wasted. Federal funds also provide an incentive for states to undertake the more politically difficult task of putting the elements of the plan into practice. Under current law, states are eligible to receive CCMP implementation funds under the SRF program, however, appropriation levels are severely inadequate to meet the growing demand for funding. The SRF program should be increased to a minimum of \$5 billion per year with a specific set-aside for implementation of comprehensive management plans.

We fully support and encourage any actions that may be taken by this Committee to strengthen the program and to help the estuaries develop and implement their CCMP's. In particular, we support the passage of H.R. 1720 and its Senate companion, as a means to not only provide for implementation of the CCMP's, but to also strengthen the process by which these plans are developed.

In summary, we feel that the National Estuary program has done an excellent job identifying waters of "national significance" and documenting their problems. However, we believe that the program will be significantly strengthened by passage of H.R. 1720, which incorporates: (1) a mandate for implementation and development of fixed time-frames; (2) a requirement that EPA take on a more aggressive leadership role; (3) increased citizen participation; and (4) a federal commitment to provide the funds necessary to implement CCMPs. Proper implementation of the NEP would help address a full range of other coastal issues that impact the economic and environmental health of our communities.

**CONCLUSION**

This concludes our testimony. I hope we have highlighted the inevitable economic and environmental costs associated with ignoring protection of our aquatic ecosystems. In order to avoid the furtherance of these costs, we encourage you to do all that is within your power to assure that the current provisions of the National Estuary Program are strengthened and that a federal minimum beach closure and advisory protocols are developed. We applaud Representatives DeLauro (D-CT) and Lowey (D-NY) for sponsoring H.R. 1720 and Representative Hughes (D-NJ), the author of H.R. 31, for their focus on the economic and environmental benefits of cleaning up these estuaries and coastal recreational waters. Thank you once again for soliciting our views on these important issues. We appreciate the Committee's attention to estuary and aquatic ecosystem protection.

**BEFORE THE HOUSE PUBLIC WORKS AND TRANSPORTATION COMMITTEE  
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT  
REPRESENTATIVE APPLIGATE, CHAIRMAN**

**REGARDING REAUTHORIZATION OF THE  
FEDERAL WATER POLLUTION CONTROL ACT**

**TESTIMONY OF NATIONAL WATER RESOURCES ASSOCIATION  
PRESENTED BY BENNETT W. RALEY  
CO-CHAIRMAN, NWRA CLEAN WATER ACT TASK FORCE  
HOBBS, TROUT & RALEY, P.C.  
DENVER, COLORADO**

**April 22, 1993**

Mr. Chairman and Members of the Committee:

I am BENNETT W. RALEY, Co-Chairman of the National Water Resources Association's Clean Water Act Task Force. I appear before this Committee today to express the Association's concerns and interests in issues related to the reauthorization of the Federal Water Pollution Control Act. The National Water Resources Association (NWRA) is a non-profit federation of associations and individuals dedicated to the conservation, enhancement, and efficient management of our Nation's most precious natural resource, WATER. NWRA is the oldest and most active national association concerned with water resources policy and development. Its strength is a reflection of the tremendous "grass roots" participation it has generated on virtually every national issue affecting western water conservation, management, and development.

The Federal Water Pollution Control Act Amendments have been in place for over 20 years. With the exception of the 404 Dredge and Fill program, the Act should be viewed as one of the more successful environmental programs enacted by Congress. In contrast to the Endangered Species Act and CERCLA, which are viewed by many as expensive failures which require major legislative overhauls, the Clean Water Act does not require significant changes in order to achieve the goals of the Act.

As Congress considers reauthorization of the Act, it should squarely face several critical issues:

1. **What is the goal of the Act? Is it to attain water quality sufficient to allow the use of water for municipal, agricultural, recreational and aquatic life purposes, or is it to achieve "ecological", "biological" or "physical" integrity, as measured against a pristine environment? Is it feasible to restore and enhance all waterbodies to "fishable, swimmable" levels?**
2. **Should states retain the authority to determine the level of protection to be provided to specific waterbodies?**
3. **Does Congress want to abrogate existing state authority over water allocation and administration decisions, and replace it with a federal water allocation system?**
4. **Does Congress want to assert regulatory or oversight authority over local land use decisions which have always been the prerogative of States and local governments?**

NWRA believes that any amendment of the Clean Water Act should 1) include a consideration of economic and technical factors in determining the goals of the Act, and attempts to attain "ecological", "biological" or "physical" integrity must recognize and allow human-induced changes to water quality so long as existing State classified uses are protected; 2) allow States to continue to establish water quality standards and use classifications for specific waterbodies, and to decide whether the protection of additional uses is attainable; 3) preserve

state authority over the allocation and administration of quantities of water; and 4) not establish federal oversight or regulation over local and regional land use decisions.

In particular, Congress should give States adequate time and resources to allow the full implementation of Section 319 of the 1987 Clean Water Act Amendments, which created a comprehensive program to address nonpoint sources of pollution. If changes to Section 319 are needed, they should be consistent with the attached "Principles Statement of the Clean Water Act Working Group", and "NWRA Statement of Principles Regarding Clean Water Act Reauthorization", dated July 29, 1991.

**THE GOAL OF THE CLEAN WATER ACT SHOULD BE TO PROTECT AND ALLOW  
THE USE OF WATER FOR DRINKING WATER, AGRICULTURE, RECREATION,  
AND AQUATIC LIFE**

NWRA represents municipal, industrial, and agricultural water users in the 17 western states. These states vary widely in climate, geography, and patterns of economic development, but share the common problem of water scarcity. Over 125 years ago Congress recognized that this diversity required that the individual states be able to develop a water allocation and administration system that fit their particular needs. Interstate water allocation issues have been addressed through interstate compacts and equitable apportionment decrees of the United States Supreme Court. In response, the states have developed sophisticated systems for establishing rights to the use of water within their boundaries, and millions of people and billions of dollars of public and private investment rely on these systems. In almost all states, these systems have been modified to recognize and allow non-traditional allocations of water for instream environmental and recreational purposes. The critical element of these water allocation and administration systems is that they provide a rational mechanism for allocating water in times of scarcity, which in turn allows more efficient decision-making by those who would invest public and private resources.

The relationship of the Clean Water Act to these systems is inextricable. On the one hand, water must be of adequate quality before it can be used for municipal, agricultural, and recreational purposes. On the other hand, water users typically must withdraw water from its natural source for the intended use, and return a portion of the withdrawn supply to the stream for successive use by others. Consequently, the Clean Water Act must function in a manner which protects water quality without destroying the water allocation and administration systems upon which water users rely, or prohibiting the uses altogether.

The greatest threat to the integrity of these systems from the Clean Water Act are attempts to use the Act as a surrogate or replacement mechanism for allocating the use of quantities of water in order to establish instream flows<sup>1</sup>. For example, it is impossible to

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<sup>1</sup> See EPA's Paper on "Arid Area and Water Efficiency Issues" dated February 11, 1991, pp 7-8, which states that "Stream flows may be depleted beyond the point where they can

simultaneously divert water from a stream for use elsewhere and preserve the "physical integrity" of the stream - the stream no longer has the naturally occurring quantity of water. If the Act is changed from a program to address the discharge of pollutants from point and non-point sources to a program to protect and preserve aquatic habitat, or biological, physical, or ecological integrity, it will then be asserted to restrict the diversion of water under state created water rights. This leads to chaos, because the water will then be used in a manner inconsistent with the state allocation system, and the purpose of the Clean Water Act will have been defeated, because the uses it was intended to protect and allow (municipal, agricultural, and recreational) will be prohibited.

An actual example of the type of chaos that will result has already occurred in Colorado. In one instance, the United States Forest Service illegally required the owner of a reservoir to release water to protect the downstream aquatic environment. However, the water was immediately diverted by a downstream junior water right. The result was that the water was taken from the entity which had a right to it under the state system, and instead given to an entity which was not supposed to receive the water, and the purpose of the Forest Service was not achieved. The answer to these types of problems is that water allocations for all purposes must be integrated into the existing state systems, as is required by the McCarran Amendment. 43 U.S.C. § 666. The Clean Water Act cannot and should not be used as a partial and illogical replacement for existing state allocation systems. Where additional water is required for instream flow purposes, it should either be appropriated in accordance with state law, or purchased from its existing owners.

A second example of the problems that the Clean Water Act can create for water uses is found in the many streams and artificially created wetlands which would not have any significant flows at dry times of the year if it were not for treated municipal effluent or agricultural return flows. If water quality standards impose additional requirements to achieve "biological integrity", these flows may be eliminated by alternate treatment methodologies, which will in turn eliminate the modified aquatic environment these flows support.

Consequently, the focus of the Clean Water Act should be on reasonable control of point and non-point discharges of pollutants which impair classified uses of water for drinking water, agriculture, recreation, and aquatic life, as defined by the States through the setting of water quality standards and effluent limitations applicable to point sources, and economically feasible voluntary best management practices identified by the States for nonpoint sources. However, it is equally important that the goal of the Clean Water Act not be defined as the restoration of

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support the goals of the CWA and maintain the physical, chemical, and biological integrity of water bodies. ... In many areas, particularly in the West, instream flows are a critical factor affecting water quality and the health of aquatic ecosystems. In such cases, CWA programs that emphasize water quality and ecological protection, critical aquatic habitats, and risk-based and geographic targeting will not be successful unless instream flows are maintained."

the natural or pristine environment, or by concepts of biological, physical, or ecological integrity.

#### THE GOAL OF THE CLEAN WATER ACT

EPA and environmental groups have indicated a desire to shift to a new focus on the "restoration" and "enhancement" of the "biological" and "physical" integrity of waters within the regulatory scope of the Act. This intent is demonstrated by EPA's adoption of "Guidance on Biological Criteria"<sup>2</sup>, by EPA's requirement that the States adopt an "Antidegradation Policy", and by provisions in both S. 1081 (102nd Congress) and Representative Oberstar's March 18, 1993 draft "Nonpoint Source Water Pollution Prevention Act of 1993" (see Sections 301, 303, and 321).

In 1972 Congress did refer to biological and physical integrity in Section 101(a) of the Act, and to the laudable goals of elimination of all discharges of pollutants by 1985 and attainment where possible of fishable, swimmable status by 1983. However, it is equally clear that these theoretical goals have not and cannot be achieved for point sources, let alone the vastly more complex nonpoint sources. Congress must consider both the technical feasibility and economic consequences of pursuing these theoretical and unattainable goals.

There is an important distinction between the protection of existing and reasonably foreseeable uses of waters and the attainment of physical and biological integrity, particularly if integrity is measured by reference to a natural or pristine condition (as is proposed in EPA's Guidance on Biological Criteria). Many waterbodies which have been affected by discharges of pollutants from point and non-point sources nonetheless support aquatic habitats which differ from the natural or pristine condition that would exist in the absence of human impacts. The Clean Water Act should recognize and allow human-induced modifications to water quality so

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<sup>2</sup> See EPA's "Biological Criteria, National Program Guidance, April, 1990, pp VIII-IX. "Biological criteria are narrative or numerical values that describe the biological integrity of aquatic communities inhabiting waters of a given aquatic life use. They are developed under the assumptions that surface waters impacted by anthropogenic activities may contain impaired aquatic communities (the greater the impact, the greater the expected impairment), and that surface waters not impacted by anthropogenic activities are generally not impaired. Measures of aquatic community structure and function in unimpaired surface waters functionally define biological integrity and form the basis for establishing the biological criteria." ... "To develop values for biological criteria, states should (1) identify unimpaired reference water bodies to establish the reference condition, and (2) characterize the aquatic communities inhabiting reference surface waters used to establish reference sites.... The basis for choosing reference sites depends on classifying the habitat type and locating unimpaired (minimally impacted) waters." (emphasis added).

long as existing uses are protected.

It is therefore essential that any implementation of the concepts of biological or physical integrity recognize and allow human induced changes in the aquatic environment associated with the withdrawal and use of water. Congress must recognize that there are technical and economic limitations on our ability to achieve the goals of the Act, which must be considered in the course of the establishment of standards and criteria that will be imposed on discharges of point and non-point sources of pollutants.

#### **STATES SHOULD HAVE THE AUTHORITY TO DETERMINE THE LEVEL OF PROTECTION FOR SPECIFIC WATERBODIES**

As a practical matter, the implementation of the Act over the past 20 years by States with delegated programs has resulted in site-specific decisions regarding the appropriate level of protection for each waterbody. Waterbodies have been classified and protected for drinking water, agricultural, aquatic life, and recreational uses. These decisions have considered and balanced the theoretical goals of the Act with the physical and economic realities applicable to specific areas. The issue of enhancement and restoration of uses which are not supported by existing standards is addressed through the use attainability analysis already in place as a part of the Clean Water Act regulations. The use attainability analysis allows the States to assess the economic and technical feasibility of protecting additional uses.

It is critical that States retain the ability to make these site-specific judgements, and that this authority not be eroded by second-guessing of these decisions by Congress, EPA, or the courts. Accordingly, so long as existing classified uses of water are being protected, as measured by the standards currently in place, state determinations of use attainability should be final. Moreover, states should not be forced to adopt water quality standards which implement biological or other criteria in a manner which unreasonably affects point and non-point source dischargers to those waters, or to implement non-point source programs in a manner which is contrary to state laws regarding land and water uses. Finally, any implementation of a "watershed" approach to water quality regulation must carefully consider and respect state sovereignty, as well as interstate compacts and equitable apportionment decrees which allocate water between states.

**THE CLEAN WATER ACT SHOULD NOT INTERFERE WITH STATE AUTHORITY OVER WATER ALLOCATION AND ADMINISTRATION DECISIONS.**

For over a century, Congress has chosen to delegate to states the responsibility and authority for allocation and administration of quantities of water<sup>3</sup>. When the 1972 Federal Water Pollution Control Amendments were adopted, Congress reaffirmed pre-existing law which had established state primacy in water allocation matters. Section 102(b) of the Act states that it is

"the policy of the Congress to recognize, preserve, and protect the primary responsibilities and rights of States . . . to plan the development and use (including restoration, preservation, and enhancement) of land and water resources." 33 U.S.C. § 1251(b).

Congress also provided that:

"Except as expressly provided in this Act, nothing in this Act shall . . . (2) be construed as impairing or in any manner affecting any right or jurisdiction of the States with respect to the waters (including boundary waters) of such states." 33 U.S.C. § 1370.

After EPA indicated that it wanted to regulate the diversion of water as a part of the Clean Water Act<sup>4</sup>, Congress again explicitly addressed the relationship between the Clean Water Act and state water allocation and administration systems in 1977, and in the "Wallop Amendment" again made it clear that the Act was not intended to usurp these state prerogatives:

"(g) It is the policy of Congress that the authority of each State to allocate quantities of water within its jurisdiction shall not be superseded, abrogated or otherwise impaired by this Act. It is the further policy of Congress that nothing in this Act shall be construed to supersede or abrogate rights to quantities of water which have been established by any State. Federal agencies shall cooperate with State and local agencies to develop comprehensive solutions to prevent, reduce and eliminate pollution in concert with programs for managing water resources."

33 U.S.C. § 1251(g).

However, numerous proposals have been made to extend the scope of the Clean Water

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<sup>3</sup> NWRA's statement on S. 1081 (102nd Congress), as included in the Hearing Record of the Senate Committee on Environment and Public Works, Subcommittee on Environmental Protection, May 21, June 13, and July 9, 17, and 18, 1992, at page 928, discusses this history in greater detail.

<sup>4</sup> See "Water Quality versus Water Quantity: A Delicate Balance," 34 Rocky Mtn. Min. L. Inst. § 24 at p. 24-15 (1988).

Act to the impacts resulting from the diversion of water pursuant to state water allocation and administration systems. These proposals are typically indirect. Rather than address the issue explicitly, they instead attempt to extend the scope of the Act from the "discharge of pollutants" to the prevention of "adverse impacts" to water quality, and the "restoration and enhancement" of "biological and physical integrity", or similar goals. In addition, and notwithstanding the fact that Congress stated in 1972, and again in 1977, that the Clean Water Act was not intended to replace the authority of the States over water quantities, EPA has continued to ignore the existing mandate of Section 101(g)<sup>5</sup>.

Of particular concern to NWRA is the inclusion by EPA of dams and diversions within the nonpoint source category of "hydromodifications" in its Guidance on Section 319, without any recognition of the distinction between the withdrawal or diversion of water and a discharge of pollutants. This distinction is critical, as the Clean Water Act is intended to control the discharge of point and non-point sources of pollutants in order to prevent injury to classified uses of water for agricultural, municipal, recreational and aquatic life. The reference to "physical" and "biological" integrity of water in Section 101(a) clearly refers to implementation of the Act by means of pollutant discharge control, not instream flow maintenance. This is consistent with the 1972 Congressional testimony of EPA Administrator Ruckelshaus that "we don't believe that the solution to pollution is dilution." Perhaps in an attempt to avoid this history, proposals have been made to define the operation of a dam or a diversion as a "pollutant", even though the diversion or storage of water does not discharge pollutants to the stream<sup>6</sup>.

Simply put, it is the position of NWRA that Congress should not take from the States their authority to allocate and administer quantities of water. If Congress intends that the Clean Water Act abrogate state authority over water rights, it should do so explicitly by repealing both Section 101(g) of the Clean Water Act and the McCarran Amendment, 43 U.S.C. § 666, and should set forth the manner in which quantities of water will be allocated in the future, as well as define the extent to which Congress intends that existing property rights in water be affected by the Clean Water Act.

While NWRA would oppose any such decision as an abandonment of the principled federalism which has characterized federal involvement in land and water issues for over 200 years, at least the decision would be based on a full and public discussion of the issue, and an understanding of the mechanism that would replace the existing system.

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<sup>5</sup> See January 8, 1987 Memorandum Re: State Authority to Allocate Water Quantities -- Section 101(g) of the Clean Water Act from Edmund M Notzon, Director, Criteria and Standards Division to Water Management Division Directors Regions I - X.

<sup>6</sup> See § 8(a)(3), S. 1081 (102nd Congress).

## CONGRESS SHOULD NOT USE THE CLEAN WATER ACT TO ESTABLISH A NATIONAL ZONING LAW

Nonpoint sources of pollution are essentially associated with any use of land and water resources. Under Section 319 of the Clean Water Act Amendments of 1987, Congress intended that nonpoint sources of pollution be addressed by states through the development and implementation of nonpoint source management plans. These management plans have been developed by the States, and consist of the identification by the states of voluntary best management practices for activities associated with nonpoint sources of pollution.

This approach recognizes that nonpoint sources of pollution are very diverse and complex, and that management measures for these sources are best developed and implemented at the state and local level. Section 319 has only recently been implemented by the States because of delays the development of program guidance by EPA, as well as shortfalls in Congressional funding for the program.

Some have concluded that Section 319 is a failure, and that a more aggressive federal program is required. This assertion ignores the fact that 20 years and billions of dollars have been spent on point source control. Nonpoint sources are more even complex, and much more difficult to identify and address than were point sources. It is not reasonable to conclude that Section 319 is a failure before it has had a chance to succeed. The most common model suggested for a replacement for the 319 program is the Coastal Zone Management Act, as implemented in the recently issued Program Guidance and Management Measures. CZMA is essentially federally supervised zoning and land use planning. NWRA opposes the extension of the concepts of the CZMA program to nonpoint source control under the Clean Water Act. Section 319 can and will work if sufficient time and resources are available.

### CONCLUSION

The Clean Water Act should be reauthorized with no changes in its basic structure. States should continue to have the authority to determine the existing and future uses to be protected for individual waterbodies, and to set the standards for protection of these uses. This authority should not be eroded by the requirement that States implement "Biological" or other criteria which seek to define water quality in a manner which precludes water withdrawal and use. The Clean Water Act should not supersede, abrogate, or impair state water allocation and administration systems and water rights. Finally, the Clean Water Act should not be the vehicle for imposition of federally supervised land use planning. Principled federalism requires that States retain the authority to plan for and allow the use of land and water resources. If changes are made in the Section 319 Nonpoint Source Control Program, they should provide for more efficient targeting of areas where nonpoint sources impair classified uses, improved monitoring and data collection, and increased flexibility for States to implement Section 319 in a manner which recognizes the site-specific nature of nonpoint source pollution.

**PRINCIPLES STATEMENT OF THE CLEAN WATER ACT WORKING GROUP**

**American Farm Bureau Federation**

**American Feed Industry Association**

**American Nurserymen**

**American Sheep Industry Association**

**American Soybean Association**

**The Fertilizer Institute**

**National Agricultural Chemicals Association**

**National Association of Conservation Districts**

**National Association of Wheat Growers**

**National Broiler Council**

**National Cattlemen's Association**

**National Corn Growers Association**

**National Cotton Council**

**National Council of Farmer Cooperatives**

**National Forest Products Association**

**National Milk Producers Federation**

**National Pork Producers Council**

**National Turkey Federation**

**National Water Resources Association**

**U.S. Rice Producers**

## CLEAN WATER ACT REAUTHORIZATION: NONPOINT SOURCE PROVISIONS

In the reauthorization of the Clean Water Act, Congress should adhere to the following principles:

1. The Clean Water Act (CWA) does not stand alone in protecting America's waters from nonpoint source (NPS) pollution. Other ongoing programs at the federal, state and local level must be funded fully, coordinated with and not superceded by the CWA. This includes, in particular, the soil conservation and water quality provisions of the 1985 and 1990 farm acts and the state groundwater and surface water protection programs of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).
2. Recognizing the 20 year commitment our country has had to eliminating point-source pollution, success in reducing the more complex and diverse NPS pollution will require similar time and resource commitments. However, management of this problem will require a different approach than that of point source pollution elimination because, unlike point source pollution, NPS pollution is primarily a weather-related phenomenon that can be managed, but not feasibly eliminated. NPS pollution is caused by the inadvertent discharge of pollutants from a wide variety of society's most essential activities.
  - \*NPS pollution management programs should (a) emphasize the protection of water resources and state-designated water uses, including state-designated agricultural uses, and (b) recognize the importance and needs of individual agricultural producers and other landowners affected by the CWA.
  - \*This approach emphasizes the use of locally designed and applied, economically feasible, site-specific best management practices which do not infringe on private property rights. Implementation of these farm management options over a realistic time frame will further the goal of reaching or maintaining designated uses of water bodies.
  - \*It is inappropriate to link USDA commodity, conservation or disaster program payments to the success or failure of management programs for NPS pollution authorized under the CWA.
4. Current CWA language contains valuable provisions for NPS management embodied in Section 319. Although this NPS section has been historically underfunded and has been hampered by bureaucratic roadblocks, all states now have approved Section 319 assessments and approved management programs. Within the CWA, it is the preferable vehicle for management of NPS pollution, and changes which occur during CWA reauthorization should reinforce these existing NPS provisions.
  - \*The proper management of NPS pollution lies in state and local efforts. As such, states should continue to identify and resolve their priority NPS water problems through administration of Section 319 funds. With state oversight and approval, local organizations should continue to carry out these NPS programs. Agencies at the federal and state levels should harmonize objectives and coordinate funding for national and regional NPS management programs.

- \*State and local programs should provide for a mix of research, development, education and technical and financial assistance for both planning and implementing actions aimed at achieving state designated uses.
5. Management efforts funded by Section 319 of the CWA should be directed to priority areas based on scientific assessments that identify water bodies with impaired or threatened uses.
    - \*Priority, as determined by states, should be based on the magnitude of risk to human health, the protection of designated uses, and likelihood of further significant and unreasonable water quality degradation if no action is taken.
    - \*Strategies should be developed on a hydrologic unit, watershed-wide basis using an approach that includes the consideration of both surface and ground water quality.
    - \*Programs should focus on cost-effective, site-specific practices for individual operations with flexibility for implementation.
    - \*In order for Section 319 to work effectively for agriculture, USDA must play a lead role in the delivery of education and technical assistance at the state and local level.
  6. An effective and cost-efficient response to water quality problems requires accurate and reliable information on (a) the source, extent, and impact of NPS pollution, as well as (b) the effectiveness, utility and economic feasibility of conservation measures and best management practices.
    - \*Any Clean Water Act reauthorization should include a strong financial commitment to further research, monitoring and assessment projects.
    - \*Monitoring should include before and after sampling as well as frequent sampling during storm events and assessment of natural and historic loadings.
    - \*Scientific research and monitoring projects should follow protocols developed by the U.S. Geological Service and should be conducted on a watershed basis with local and state input.
    - \*Representative pilot projects aimed at achieving market based incentives on a watershed or regional level should be encouraged.
  7. The Clean Water Act Reauthorization should not directly or indirectly create a federal water quality law or program which supercedes, abrogates or impairs state water allocation systems and water rights.
  8. Section 319 management programs on federal lands should be developed and implemented by the specific agency statutorily charged with management of the lands in question, rather than by regulatory authorities independent of that agency.
  9. It is inappropriate for a reauthorization of the Clean Water Act to provide the authority for citizens suits against individuals participating in NPS management programs.

**STATEMENT OF PRINCIPLES REGARDING  
CLEAN WATER ACT REAUTHORIZATION\***

- I. Section 101(g) should be reaffirmed as applying to all sections of the Clean Water Act and all programs thereunder, including programs under Sections 208, 303, 304, 319, 401, 402, 404, and 510(2), and any new or altered programs resulting from the Clean Water Act Reauthorization. In this regard, Section 101(g) should be recognized as establishing the following principles:
- A. The Clean Water Act and any amendments thereto shall not directly or indirectly create a federal water quality law or program which supersedes, abrogates, or impairs state water allocation systems and rights to water created and managed thereunder.
1. Water allocation is to be accomplished by established principles of law. This means that the states have the primary responsibility and prerogative of allocating, determining, and administering rights to quantities of water. Under the provisions of the McCarran Amendment, water rights asserted by federal agencies and Indian tribes must be claimed in the appropriate state water forum when the United States is properly joined. No water rights arise in the United States or any other person by virtue of the Clean Water Act.
  2. Neither the Corps of Engineers, nor EPA, nor any other federal agency or officer shall utilize any provision or program under the Clean Water Act to allocate or reallocate quantities of water, or to require that specified levels of assimilative capacity, dilution water or instream flows remain in the water body. Nor shall these agencies or officers redefine, limit, or prohibit those uses of water which are authorized by state law as beneficial uses.
  3. No provision or program of the Clean Water Act shall be applied so as to prohibit or limit the development of water allotted to a state under equitable apportionment cases or interstate compacts.
  4. No provision or program of the Clean Water Act shall be construed or applied to authorize a taking of any state-created interests in water quantities.

5. No provision or program of the Clean Water Act shall be construed or applied to require or restrict any state in the choice of its water law, or the judicial or administrative principles for making water allocations (whether riparian, reasonable use, prior appropriation, public trust, a combination of the foregoing, or any other system of allocation chosen by a state).
  
- B. The Clean Water Act's purpose should remain the regulation of the water quality impacts of point and non-point discharges of pollutants upon classified uses of water through the setting of water quality standards and effluent limitations to protect classified uses. Though the regulation of pollutants benefits classified uses of water by protecting water quality needed for such uses, the Clean Water Act should not be expanded, construed or applied to create a national recreational, cultural, historical, ecological, habitat, aesthetic, instream flow, or land use law or program, or otherwise be utilized to regulate anything other than discharges by point and non-point sources of pollutants to waters of the United States.
  
- C. Section 404 protections and allowances for water-dependent activities should be expanded, particularly with regard to permitting for facilities which are related to the exercise of state-created water rights. In this regard, Section 404 and regulations thereunder, including Section 404(c), should facilitate the construction and operation of water facilities in waters of the United States, unless they obstruct navigability or injure an overriding federal interest of preemptive national importance. Deference should be accorded to local determination of water project purpose and need.
  
- D. Reasonable best management practices should be the means by which Clean Water Act programs are to be pursued for non-point sources, such as agriculture. The states should have primary responsibility for identifying and administering best management practices. Federal funds should be made available for implementing BMP's, as funding was provided for POTWs under the 1977 Clean Water Act and its predecessor, the 1972 FWPCA Amendments.
  
- E. All additions, deletions or modifications to the Clean Water Act during the process of the Act's reauthorization should be analyzed in light of the principles enunciated above.

## NWRA POSITION STATEMENT CLEAN WATER ACT REAUTHORIZATION

The Clean Water Act's purpose should remain the regulation of the water quality impacts of point and nonpoint discharges of pollutants upon classified uses of water through the setting of water quality standards and effluent limitations to protect classified uses. Though the regulation of pollutants benefits classified uses of water by protecting water quality needed for such uses, the Clean Water Act should not be expanded, construed or applied to create a national recreational, cultural, historical, ecological, habitat, aesthetic, instream flow, or land use law or program, or otherwise be utilized to regulate anything other than discharges by point and nonpoint sources of pollutants to waters of the United States.

In any reauthorization of the Clean Water Act, the following principles should be embraced:

The Clean Water Act and any amendments thereto shall not directly or indirectly create a federal water quality law or program which supersedes, abrogates, or impairs state water allocation systems and rights to water created and managed thereunder.

Water allocation is to be accomplished by established principles of law. This means that the States have the primary responsibility the prerogative of allocating, determining, and administering rights to quantities of water. Under the provisions of the McCarran Amendment, water rights asserted by federal agencies and Indian tribes must be claimed in the appropriate state water forum when the United States is properly joined. No water rights arise in the United States or any other person by virtue of the Clean Water Act.

No provision or program of the Clean Water Act shall be construed or applied to require or restrict any state in the choice of its water law, or the judicial or administrative principles for making water allocations (whether riparian, reasonable use, prior appropriation, public trust, a combination of the foregoing or any other system of allocation chosen by a state).

With growing frequency, the Clean Water Act is being used as a vehicle to thwart the siting and construction of storage reservoirs, hydroelectric facilities, and other water based activities associated with irrigation and drainage. As cited below, the Clean Water Act needs amendment to clean-up its intent to permit these water dependent activities.

1. **Local Responsibilities** - It is particularly important that Congress and the Administration recognize that section 404 of the Clean Water Act frequently affects local matters that are best determined by state and local governments; and that decisions by such governments on those matters should be controlling unless significant issues of overriding national interest are involved. The Corps of Engineers should accept local responsibility and respect state water rights.

2. **Decision Authority** - The decisionmaking authority for issuing section 404 permits should logically reside within the permitting agency, the Corps of Engineers. The decision process should carefully limit delay of important water resource projects by consulting agencies through the interagency review process. When the permitting agency has sufficient information on which to base a decision, it must be free to make its decision; free of any administrative veto by other federal agencies whose proper role is consultative. In this regard, the Executive Branch should make clear to the Administrator of EPA that the section 404(b)(1) guidelines that he is required to develop shall not have the force of regulatory criteria, but shall be advisory guidance to the Secretary of the Army is carrying out his statutory duty to administer the section 404 permit program.

3. **General Permits** - The section 404 permit program has resulted in needless delay and expense to state, regional and local agencies in the development of vital water resource projects at a time when the federal government is urging the states and their political subdivisions to undertake greater responsibility for meeting the needs of their citizens. Both legislative and regulatory actions are needed to remedy this situation.

In the legislative area, action is needed to provide for meaningful transfer to the individual states through the issuance of state general permits, rather than "puppet" transfers which merely add to the burden on state regulatory agencies, resulting in unnecessary duplication and delay in the permit process.

The Corps should adopt simplified procedures for issuing general and nationwide permits and for transferring 404 permit authority to states; exclude categories of water such as headwaters, isolated waters and intrastate waters; substitute a five year review period for nationwide permits; and reduce review processes with other Federal and state programs.

4. State Water Law - In accordance with the expressed intent of Congress, under no circumstance should the section 404 permit process be used by any federal agency to override the primacy of states in matters regarding the allocation of water quantities within their respective jurisdiction. An amendment to section 404 is needed to clearly provide that neither the Corps nor EPA have authority to prevent or restrict consumptive use of water or water depletions authorized under state law.

5. Guidelines - The EPA and Fish and Wildlife Service must establish guidelines which provide objective mitigation criteria; allow premitigation; and defer to the Corps in matters of engineering, economics, and other technical areas within their expertise.

The federal agencies should produce, at the conclusion of the initial scoping process, a single, project-specific list of the criteria that will be applied to the project's permit evaluation. The criteria should be clearly related to relevant federal statutory authorization and sufficiently specific for state or local governments to make responsive decisions regarding alternatives, mitigation and modifications. State and local governments should be able to rely on the fact that these criteria, once established at the scoping phase, will not change except as required by law or modification of the project application.

6. Memorandum of Agreement - The February 7, 1990 Memorandum of Agreement on mitigation between the Corps and EPA is not official policy and should be rescinded until proper public lawmaking processes are followed. The same is true of the Corps Wetlands Delineation Manual. Analysis of practicable alternatives should allow credit for mitigation in determination of the "least environmentally damaging alternative."

7. Artificial Water Areas - Limit section 404 jurisdiction so that it does not apply to water surfaces created artificially incidental to irrigation, hydropower, and water supply projects. Experience with this issue has resulted in some ridiculous examples where the effort to conserve water by lining canals has been impaired by wetlands created by the seepage. Strict and inflexible interpretation of artificial water areas is also an impairment to relicensing hydroelectric projects to conserve additional renewable energy resources.

8. Documentation - Require EPA to document its concern and recommendations to the Corps as part of the permanent process after thorough analysis of project impacts. The Corps would then have to consider EPA's formal statement in a manner similar to a biological opinion rendered by the Fish and Wildlife Service under Section 7 of the Endangered Species Act.

Milestone federal decisions, either by a permitting agency or cooperating agency, should be accompanied by specific written findings with regard to each of the criteria which it must apply by law, stating specifically the decision and the basis for that decision.

9. Continuing Cooperation - The federal government must speak with one voice. Internal inconsistencies as to federal agency policies, definitions, standards and positions should be resolved and eliminated. In any case where the project, as proposed, does not or is unlikely to receive a federal permit, the federal agencies should identify alternatives which are more likely to be permissible. Such alternatives should be reasonably cost effective and should accomplish the purpose identified by the states of local governments.

10. Reuse of Reclaimed Water - The CWA should be amended to modify water quality requirements for the discharge of reclaimed water to ephemeral and/or affluent dominated streams in order to encourage water reuse. The CWA should be amended to exempt from application manmade waterways that discharge de minimis flows of reclaimed water and remediated groundwater to waters of the United States.

Section 304 of the CWA requires EPA to develop and publish water quality criteria that will provide for the protection of various designated uses. These criteria are contained in a document entitled "Quality Criteria for Water" (U.S., EPA, Office of Water Regulations and Standards, May 1, 1986) also known as the "Gold Book." Incorporation of Gold Book criteria in state standards for all water bodies is inappropriate for many situations. In particular, in arid areas where it is critical to maximize the reuse of water, strict water quality criteria are inappropriate for the discharge of reclaimed water to ephemeral streams and creation of reclaimed water dominated streams to recharge aquifers. The Eastern Municipal Water District of Riverside County California produces tertiary treated water. The most beneficial use of this water is to discharge it into the Santa Margarita River where it will ultimately become part of the water supply of Camp Pendleton and the Fallbrook Public Utility District in San Diego County. This procedure has been approved by the health agencies and the state water resources control board. EPA Region IX has overruled the local agencies.

11. Water Conservation and Water Use Efficiency - Section 218 requires consideration of water conservation and water use efficiency measures. These should be addressed separately from the Clean Water Act so that they are not tied to permitted or grand and loan programs with the purpose of eliminating pollution discharges.

## **NWRA POSITION STATEMENT IMPLEMENTATION OF CLEAN WATER ACT**

State Water Rights - State and local allocation of the use of the waters of the streams of the several western states has provided a critical element in the development of the health and welfare of those areas. Accordingly, Congress has consistently deferred to state water rights jurisdiction wherever possible. However, some federal courts have interpreted the provision of the Clean Water Act, section 101(g), very narrowly. Accordingly, Congress should reaffirm that section 101(g) should not be construed or used to supersede or abrogate rights to quantities of water established by any state; and in particular that section 101(g) applies to section 404 and 510(2). Further, the water quality provisions of section 303 were established to protect water rights allocated by the states for beneficial consumptive use, and that section should not be construed to impair those rights in any way.

POTW Compliance - EPA and participating states are imposing increasingly restrictive effluent limitations for municipal wastewater discharges based upon more restrictive water quality standards. The adoption of new and more stringent water quality standards will result in existing permits being revised to require immediate compliance with the more stringent effluent limitations. While a compliance schedule provides some relief to the discharger, the effluent limit must be met regardless of public costs of actual benefits to the downstream uses. Accordingly, EPA needs authority to allow municipalities operating POTWs a reasonable period to achieve compliance with those new permit conditions, including time for development of new cost-effective technology.

Instream Uses - Water quality standards necessary to protect instream uses can require stringent effluent limitations for wastewater dischargers who discharge greater flows than are normally in the stream itself or who discharge to streams having naturally high metals concentrations. Such effluent limitations are to be achieved regardless of cost to publicly owned wastewater treatment works and regardless how small the benefit. Section 302 of the Act provides an opportunity to evaluate the benefits and costs of effluent limitations necessary to protect instream uses. However, EPA has interpreted section 302 as not applying to state-issued permits that implement water quality standards pursuant to section 301(b)(1)(C). Section 302 was amended in 1987 to apply only to NPDES permits issued to industrial dischargers. Section 302 should be amended to apply to publicly owned wastewater treatment permits and to be usable by delegate states. Such an amendment should be consistent with the congressional policy that no federal funds be used for advanced waste treatment facility construction where no substantial benefit to stream quality will occur.

Indian Tribes - As part of its implementation of the Clean Water Act's 1987 addition of section 518, EPA has created four work groups for the purpose of developing regulations on how Indian tribes will be treated as states under sections 104, 106, 201 to 219, 303, 305, 314, 319, 401 and 404 of the Act. Section 518 allows qualified Indian tribes to, among other things, establish water quality standards, issue NPDES permits, dredge and fill permits, and pursue enforcement activities. The issues related to these responsibilities, and their relationships to state water quality programs and Indian jurisdiction in general, are extremely complex.

Clean Water Act section 518(3) directs the Administrator, in promulgating regulations which specify how Indian tribes shall be treated as states, to "consult affected states sharing common water bodies and provide a mechanism for the resolution of any unreasonable consequences that may arise as a result of differing water quality standards that may be set by states and Indian tribes located on common bodies of water."

All issues related to Indian jurisdiction are of vital interest and concern to western states, where many tribes share common water bodies with those states. When that jurisdiction impacts the management and protection of critical water resources, the concern is even greater. Because of this concern, NWRA requests that in accordance with section 518(e) of the Clean Water Act, EPA take the steps necessary to consult all states affected by the inclusion of Indian tribes as states within the Act.

Nonpoint Source Program - Section 319 outlines a program for control of nonpoint sources of pollution. Water users may be greatly affected by the promulgation of nonpoint source control regulations. Certain federal agencies such as the Bureau of Reclamation and Soil Conservation Service have extensive knowledge and expertise with agricultural practices and state water laws and should be involved with this process. Local governmental agencies such as water conservation districts, conservancy districts, and municipalities can also greatly assist in

the careful consideration of the many issues that are involved with nonpoint source control measures if applied to agriculture. EPA and the states should approach the section 319 program with an orientation designed to fully involve and respect the role of agriculture and other water users in meeting the need for food and fiber and public drinking water supplies in the nation's and the world's economy. Nonpoint source controls, if adopted, should stress reasonable, cost effective measures which don't interfere with the exercise of water rights and are demonstrably necessary to protect against injury to the beneficial uses of water supplies.

Adequate funding of the nonpoint source program is particularly important. Federal mandates to the states without financial support impair the effectiveness of a uniform national program. In particular, the Clean Water Act Amendments of 1987 require a new focus on nonpoint sources but without financial support. States are to create and implement individual control strategies for categories of nonpoint sources. Yet, abandoned mine drainage is a major nonpoint source category where control is not feasible because no person or entity remains financially responsible for the pollution. Federal aid combined with state programs should be encouraged. Not only federal funding support for nonpoint source control implementation, but also federal funding for all other federally required actions being implemented by the states should be maintained and improved.

National Estuarine Program - The National Estuarine Program, added as section 320 of the Clean Water Act by the 1987 Amendments, establishes a management conference process for developing and implementing conservation and management plans to protect estuarine resources. In structuring and administering that process, EPA and other participating federal agencies have, at times, tended to overlook resulting impacts of that Program on public water supplies diverted from streams upstream of the estuary. However, section 102(a) of the Act specifically recognizes that one of the Act's key purposes is to protect public water supplies. **The above concepts should apply in the implementation of any watershed planning program.**

In light of increasing pressure on public water supplies, it is essential that EPA and other federal agencies developing National Estuarine Program implementation plans fully recognize the need to protect public water supplies developed from streams flowing into the estuary as well as other resources; and allow state, local and regional agencies that rely on those public water supplies to participate fully in developing those plans.

Nationwide Permits - The Secretary should renew each of the existing nationwide permits and should promulgate others which cover general categories of construction activities which are performed nationwide and which either cumulatively or individually will not have significant impact on the environment. This would allow the Corps to monitor even more standard projects with its existing staff and trained individuals. If the United States is to remain competitive in world markets, we must all do what we can to improve the efficiency of the system and this is one step towards that end.

Wastewater Contracts - In implementing the federal Clean Water Act provisions for funding wastewater treatment projects constructed by local water agencies, EPA has imposed serious hardships on those agencies by changing federal design criteria and funding allocations, and thus, federal contractual obligations, after completion of those facilities. This resolution urges EPA to discontinue that practice in order to protect the financial stability of local agencies that have constructed wastewater treatment projects under EPA Clean Water Act contracts.

Under EPA regulations, audits are performed to ensure the project constructed is in accordance with the plans and specifications, and are necessary to discover (1) discrepancies in the project elements that are constructed, (2) whether the project is being used as intended, and (3) whether the project has been constructed under conditions of fraud or corrupt practices. If any of these items is discovered, the grant may and should be annulled in accordance with regulations of the Act (CWA Construction Grants Manual Section 30.920-5, Annulment of Grant).

EPA's audit practice, however, has been to reevaluate the design criteria many years after the project was conceived and to apply hindsight to determine whether the design criteria are consistent with present day practices. The result is to reduce the eligibility of project capacity based on this new information not available at the time of project conception and to disallow, retroactively, the use of EPA grant funds, sometimes in the range of millions of dollars.

Section 203(a) of the amended Clean Water Act clearly expresses the congressional intent that eligibility determinations, once made, are not to be later modified unless found to have been made in violation of applicable federal statutes and regulations.

This resolution is in furtherance of paragraph B(8) of NWRA Statement of Objectives, supporting action which would result in uniform project development standards applicable to all federal water development agencies.

Protection of Wetlands and Municipal Supply - Currently, section 404 of the CWA outlines procedures for issuing permits for the discharge of dredged or fill material into navigable water of the Nation. The Secretary of the Army is charged with administering a regulatory program pursuant to section 404. The Administrator of EPA has oversight of the Secretary's regulatory program and has authority to prohibit the discharge of such material to a defined area when it is determined that the discharge will adversely impact municipal water supplies, shellfish beds and fishery areas, wildlife or recreational areas. Steps for regulations are measures to direct positive steps for water resources managers and measures to integrate protection of wetlands with safe drinking water.

a. Section 404(a) should be amended to encourage early and full evaluation of water supply reservoir alternatives in a joint process between a permit applicant and the Army Corps of Engineers. Currently, the Corps requires submittal of a very detailed application outlining the proposed project in order to initiate the federal regulatory process. Because the federal process for water supply reservoirs commonly requires preparation of an Environmental Impact Statement pursuant to the National Environmental Policy Act, the alternatives issue is then reopened after the applicant may have already undergone a state review of alternatives.

b. Currently, EPA and the Corps publish Memoranda of Agreement (MOA) to set out significant policies dealing with definition and delineation of jurisdictional wetlands and with wetlands mitigation. This MOA process has been a closed one that has not included Federal Register publication of draft policy statements subject to public review and comment. Section 404 should be amended to provide for development of policies in a public forum for prioritizing of wetland resources, for development of mitigation banks, and for integration with drinking water requirements which will help to direct water supply managers in their planning for new supplies.

c. The CWA exempts a variety of activities including emergency repair of existing water supply facilities, but does not allow for construction of water supply projects under extreme emergency situations. Section 404(f) should be amended to allow construction of emergency municipal water supply projects to meet minimum water supply needs for the protection of public health in response to drought, natural disaster or other emergency situations.

Statement of the  
NATIONAL BROILER COUNCIL  
NATIONAL MILK PRODUCERS FEDERATION  
NATIONAL PORK PRODUCERS COUNCIL  
NATIONAL TURKEY FEDERATION  
UNITED EGG PRODUCERS  
Before the  
Subcommittee on Water Resources and Environment  
of the  
Committee on Public Works and Transportation  
U.S. House of Representatives  
on  
Reauthorization of the Federal Water Pollution Control Act

April 22, 1993

Presented by: Danita Rodibaugh  
Executive Committee  
National Pork Producers Council  
Route 4, Box 195  
Rensselaer, Indiana 47978

Mr. Chairman and Members of the Committee:

My name is Danita Rodibaugh and I am a pork producer from Rensselaer, Indiana. Our 400-sow, farrow-to-finish operation, consists of 1600 acres of farmland that includes 900 acres of corn and 500 acres of soybeans. We also practice no-till on all of our farmland. In addition to my involvement in the family farm, I serve on the Executive Committee and the Environmental Committee of the National Pork Producers Council.

Today I am speaking on behalf of the National Pork Producers Council, the National Turkey Federation, the National Broiler Council, the National Milk Producers Federation, and the United Egg Producers. Together these associations represent the majority of farmers who produce pork, chicken, turkey, eggs, and dairy products for this nation's consumers.

We appreciate this opportunity to testify on the reauthorization of the Federal Water Pollution Control Act, and look forward to working with the Committee as new legislation is developed. The "Clean Water Act" plays a key role in our future.

Meeting a growing demand for food, while maintaining a quality environment has been a persistent challenge throughout man's development. As the world's demand for food has increased, so has the complexity of problems associated with more intensive agricultural production.

Our members are working to protect the environment. We in agriculture continue to respond to new concerns everyday as scientific advances are made on the environmental front. At the same time, if we are to remain competitive in the international marketplace, it is imperative that our producers be allowed the flexibility to deal with environmental concerns through the use of current programs, new technologies, and innovative approaches that minimize the regulatory burden and capital investment.

#### Dairy, Meat and Poultry Sectors

The United States has experienced a steady decline in the number of dairy, meat, and poultry producers that has corresponded to an increase in

concentration in these sectors. As individual producers have expanded their production, confinement units have become the most efficient and productive way to raise chickens, turkeys, swine, and dairy cows.

Confinement systems offer a number of advantages. This type of production system allows a producer to more closely control temperature, feeding, and the spread of disease. These units also concentrate the nutrients produced by the animals. As these operations have intensified, we have developed new creative methods for managing and utilizing these organic resources.

#### Animal Nutrient Storage and Application

The discussions of water quality as they relate to animal agriculture center primarily on the transport of nutrients into our water supply through run-off or leaching. Changes in modern livestock and poultry production, however, are affecting the way we store and apply animal nutrients. The continued development and use of these systems will have long-term implications for water quality.

Some operations utilize a lagoon storage system for holding animal nutrients until they can be incorporated into the soil. Proper lagoons today are constructed with the assistance of U.S. Department of Agriculture Soil Conservation Service personnel, Cooperative Extension Service agents and other technical experts who are familiar with soil types, hydrology, nutrient levels, and flow rates of individual farm operations. Lagoons can be lined with impermeable clay that acts as a sealant to prevent nitrates and other components of livestock and poultry nutrients from leaching into the groundwater. Other lagoons rely on a natural seal that is created by the nutrients themselves. The application of each of these methods is dependent upon the soil type where the lagoon will be located.

The slurry system is another means of storing animal nutrients. This system is designed for easy introduction and removal of nutrients. Slurry systems are traditionally concrete or steel tanks designed to store nutrients for a prescribed number of days. The system's capacity is determined by the number of head, the size of the animals in the unit, and

the frequency of nutrient application. Additional capacity is also provided to account for rainfall.

Another method of waste management is the manual scraping of open pens. This option requires an adequate land area that is available year around for the application of nutrients. Frequent cleaning of pens reduces the amount of nutrients exposed to rainfall. This method of manure management can be effective for smaller animal agriculture operations with crop acreage. In addition, there are other effective nutrient management techniques that can be used by producers that fit the individual needs of their operations.

#### Nonpoint Source Pollution Control Programs

The Food Security Act of 1985 ("1985 Farm Bill") and the Food, Agriculture, Conservation, and Trade Act of 1990 ("1990 Farm Bill") both included provisions to help agricultural producers in addressing nonpoint source pollution concerns. The programs implemented under the 1985 Farm Bill are beginning to show dividends in protecting water quality. These efforts and the new programs included in the 1990 Farm Bill need to be given a chance to work if we are to make substantial gains toward improved water quality.

The Agricultural Water Quality Protection Program found in Section 1238B of the 1990 Farm Bill is a potentially significant and far-reaching program for improving water quality. This program was designed to provide producers with the financial and technical resources necessary to develop and implement comprehensive water quality protection plans. Producers must implement a water quality protection plan approved by the Secretary of Agriculture to receive incentive payments under this program. According to the Act, the plan must include:

"(1) a description of prevailing farm enterprises, cropping patterns, and cultural practices, and other information that may be relevant to protecting water quality on the farm; (2) a description of farm resources, including soil characteristics, proximity to water bodies, and other relevant characteristics of the farm related to water quality; (3) to the extent practicable, specific, quantitative water

quality protection goals and objectives that will minimize contamination or degradation of surface or groundwater; (4) water quality protection practices that will, if implemented by a producer, assist such a producer in complying with State and Federal environmental laws, and where appropriate, will complement conservation plans prepared for highly erodible lands under Section 1212 of the Food Security Act of 1985; (5) the specific agricultural production practices that will be implemented, improved and maintained, including practices that ensure the continued farm productivity by promoting efficient use of fertilizers, other crop nutrients, and pesticides, as well as management practices that are to be avoided, in order to carry out and achieve the water quality goals and objectives of the producer; (6) to the extent practicable, water and loading of pesticides and fertilizers and storage and handling of animal wastes; (7) their timing and sequence for implementing such practices that will assist the producer in complying with State and Federal environmental laws, taking into consideration schedules that may be established in such laws; (8) information that will enable the evaluation of the effectiveness of the plan in protecting water quality; and (9) recommendations of application rates and disposal methods of nutrients, pesticides, and animal waste materials as recommended by the Secretary."

This plan represents one of the most comprehensive, multidisciplinary approaches to improving water quality implemented by the federal government. It requires an investment of time and money by the producer, yet through the use of incentives, makes the adoption of these practices economically feasible. If proven successful, this approach could serve as a model for future water quality programs.

The technical assistance provided under this program by USDA's Soil Conservation Service is a necessary component of any water quality improvement plan. Nonpoint source pollution is, by definition, difficult to identify and prevent. Faced with this challenge, it is unlikely that most producers would have the knowledge necessary to develop a plan to meet water quality standards. In addition, any water quality improvement plans producers develop must concentrate on addressing the actual threats to water quality that can be identified through objective, scientific methods.

This can only be accomplished with technical assistance supplied by a field force that has an established working relationship with producers.

The other essential component of the Agriculture Water Quality Protection Program is the financial assistance it provides. Producers have demonstrated they will adopt new practices and build new structures to protect our environment. It is difficult for them to do so, however, if those changes and structures threaten the financial viability of their operation. Incentives for the adoption of new water quality improvement measures will help producers implement practices that go beyond what would be required to meet national water quality standards.

Another program included in the 1990 Farm Bill that uses a multidisciplinary approach is the Integrated Management Systems. This research and education program is designed to encourage producers to adopt integrated crop and livestock management practices that minimize environmental degradation. The program provides producers an opportunity to implement and evaluate environmentally sound farming practices that can help them meet environmental standards with minimal cost.

The livestock component of the Integrated Management Systems is the Integrated Resource Management (IRM) Program. It is our hope that IRM will serve as an education and technical assistance program for teaching producers economical ways to protect the environment. The research and education components of this program are a perfect complement to the Agriculture Water Quality Protection Program.

There are a number of other programs included in the 1985 and 1990 Farm Bills that will have a positive impact on water quality. The Conservation Reserve Program (CRP) and the Wetlands Reserve Program will help reduce run-off. Furthermore, the preservation of wetlands will help mitigate the affects of nonpoint source pollution by absorbing pollutants before they enter surface waters. The CRP, the Agriculture Conservation Program (ACP), and the conservation plans required by the 1985 Farm Bill were all designed primarily to reduce soil erosion. The reduction of sediment entering our streams and lakes, however, will have a much greater impact upon water quality.

By reducing the amount of sediment that enters our surface waters, we are also reducing the level of nitrates, animal nutrients, chemicals, and fertilizers that enter surface water via attachment to the soil particles. The overall result of these soil conservation programs is likely to be a dramatic improvement in water quality.

#### Point Source Provisions of the Clean Water Act

Current Clean Water Act authority allows states to regulate feedlots and confinement units larger than 1000 animal units. State pollution control directors have additional authority to enforce the statute where they have determined a serious environmental threat exists. In these situations, livestock and poultry producers are effectively treated as point source contributors.

The federal government has invested in excess of \$60 billion over 20 years in dealing with the issue of point source pollution. We believe that we also need sufficient time and economic resources to adequately address the more complex issue of nonpoint source pollution.

#### Section 319

Congress began to take a comprehensive approach to the problem of pollution from all nonpoint sources in 1987, when it last amended the Clean Water Act. Some of you on this Committee provided the leadership in adding Section 319 to the Act, authorizing a state-federal program aimed at controlling the diverse sources of pollution. The program was designed to be funded jointly by the federal government and the various states, with funds being distributed to those states that created and implemented nonpoint source pollution programs.

Six years later, nonpoint source pollution remains a problem, and many people claim it is because the Section 319 approach has not proved effective. These critics now ask Congress to replace Section 319 with a new nonpoint source pollution control program. The Coastal Zone Management Act is offered up as one such model for addressing nonpoint source pollution, even though the management guidance has only recently been released, and the program is yet to be implemented. It would be

extremely premature to assume this program should serve as "the model" in light of the fact that it not been put in place and tested for effectiveness.

The livestock and poultry producers represented here today disagree with the criticism directed at Section 319, and urge Congress to retain and enhance this watershed approach. Section 319 has not suffered because of structural flaws in the program; it has suffered because Congress has failed to provide adequate funding. Congress authorized \$400 million for Section 319, yet to date has funded little more than one-quarter of that total. Even with woefully limited resources, Section 319 has yielded positive results in the effort to control nonpoint source pollution. New York, Florida, Oregon, Idaho, Illinois, Colorado, Iowa, and Vermont already have documented water quality improvements that are the result of using Section 319 nonpoint source management strategies.

Section 319 works when funded because it is implemented and managed at the local level, where the site-specific nature of controlling nonpoint source pollution can be addressed. A common policy objective of the groups represented is to maintain local primacy over efforts to control nonpoint source pollution. This pollution comes from a variety of diverse sources, so potential pollutants--and the methods to control and eliminate those pollutants--vary not only from state to state, but from watershed to watershed, and farm to farm. A nonpoint source pollution problem in the Shenandoah Valley does not simply differ from a nonpoint source problem in Colorado. The Shenandoah Valley problem may well differ from a nonpoint source challenge along Virginia's tidal marshlands. Therefore, we must pursue a site-specific approach when tackling nonpoint source pollution.

Animal agricultural producers recognize the potential threat of nonpoint source pollution, and we are working to be a major part of the solution to this problem. Our own self-initiated efforts together with the use of existing programs, such as the Water Quality Protection Program mentioned earlier, and an enhanced Section 319, could make the difference in effectively reducing nonpoint source pollution in virtually all regions of the country. The marriage of a site-specific effort with a strong watershed-by-watershed program administered through Section 319 is clearly the

preferred approach.

#### Goals within the Clean Water Act Reauthorization

Our most fundamental goal is to develop and implement a coordinated plan and programs to help livestock and poultry producers be better stewards of our natural resources. We believe that problem identification, environmental research, producer education, and technical and financial assistance are the essential building blocks for ensuring that livestock and poultry systems are effective in addressing environmental concerns.

Once problems have been clearly identified on the farm, producers can begin to implement a number of new and traditional practices to protect surface waters. Incorporation of nutrients into the soil is one option to help preserve nutrients for plant use and reduce run-off. For example, broad band incorporation, which blends nutrients and soil together better than traditional "knifing" systems, offers even greater potential environmental benefits. This type of system requires either specialized equipment or additional trips across a field to incorporate the nutrients.

Producers may also use constructed wetlands to manage nutrients in some situations. This option uses natural plants to filter nitrates and biological pollutants from lagoon waste water. Constructed wetlands provide environmental benefits in addition to waste management. Additional research on this technology is needed to make it practical and cost-effective.

Our experience in other areas, such as food safety, shows us that effective producer education with technical advice, plays a major role in the on-going success of any plan and program.

#### Incentive-Based Approach

We strongly believe that an incentive-based approach that includes cost-share assistance, no-interest or low-interest environmental loans, and environmental tax credits would help provide agricultural producers with the financial tools to effectively deal with nonpoint source concerns. Most agricultural producers have limited financial resources, and would be

hard-pressed to take on new regulations that require expensive outlays. Because economic incentives have a proven track record in the environmental arena, we should provide a menu of options to producers in order to improve water quality.

#### Bio-Criteria and Bio-Diversity

In addressing potential water pollution problems, we must remember that our primary focus is to improve the overall quality of water in threatened watersheds. Any revisions to the Clean Water Act must keep that basic principle in mind if it is to be successful.

Some have proposed using bio-diversity criteria to determine the cleanliness of a particular body of water. The proponents of bio-diversity say a stream, river, or lake is not truly clean unless there is sufficient evidence that the water body is sustaining a wide variety of life forms.

A farmer managing a confinement operation has a basic responsibility to the watershed--he or she must make sure any potential pollution from the operation is controlled and that the water remains clean. If the water in question meets the water quality standard, the farmer has fulfilled their responsibility. The farmer cannot and should not be expected to guarantee a certain level of bio-diversity in a watershed.

Congress should adopt water quality standards that recognize different uses in different watersheds and provide for clean water capable of sustaining aquatic life where appropriate. Moreover, Congress and EPA should refrain from dictating the specific forms of aquatic life all watersheds should sustain.

#### Citizen Monitoring/Lawsuits

Every American has an interest in the environment, including all of us represented here today. At the same time, we believe it would be a mistake if Congress further encouraged citizen monitoring and citizen lawsuit authority in its reauthorization of the Clean Water Act.

American agriculture already spends an extraordinary amount of time and incurs significant expense in complying with regulations promulgated by governmental agencies. They do not need the additional burden and expense that comes from worrying about and defending themselves from third-party monitoring efforts and third-party lawsuits. While some citizen's groups genuinely believe their monitoring and litigation efforts are filling a void left by inadequate government regulations, there are many other groups that will engage in such activities solely to disrupt farm operations.

Rather than enhancing the opportunity for citizen monitoring and citizen lawsuits under the Clean Water Act, Congress instead should make sure the government agencies assigned with enforcing environmental laws have the resources necessary to perform their task thoroughly. In addition, agricultural producers should be encouraged to focus their efforts on avoiding water quality degradation as opposed to avoiding water quality litigation.

#### Environmental Taxes

Some have suggested levying environmental taxes to defray the cost of programs like the those implemented under the Clean Water Act. Administering these programs is expensive, and government resources are limited. Why not make those that are discharging into the water supply pay for the program? It may be a tempting proposition, but one Congress must resist.

The cost to American agriculture of complying with even modest changes in the Clean Water Act will be significant. Agricultural producers could be required to pay for a variety of new equipment and to make extensive structural changes in their farm operations. American agriculture stands ready to bear its reasonable share of the burden to ensure safe, clean waters for generations to come. But it would be wrong to expect agriculture--or any other nonpoint source contributor--to pay the cost of complying with new environmental laws and the cost of administering those laws.

The goal of any environmental law should be to maximize ecological protection while minimizing the disruption of commerce. Every expense added by the Clean Water Act reauthorization will effect the cost of producing the farmer's end product. Not only will this lead to increased food prices, but higher production costs could also effect our international competitiveness in agricultural commodities. Agricultural exports remain one of this country's unqualified successes in international trade.

We urge Congress to minimize the financial impact of any Clean Water Act reauthorization. Restrict the costs to those expenses that are absolutely necessary to protect our water supply. Do not add an additional tax burden that will most certainly adversely effect our competitiveness and that could well drive many of our farmers out of business.

### Wetlands

We believe that the reauthorization of the Clean Water Act must address the regulation of wetlands under Section 404. Agricultural producers are concerned about the confusing and ever-changing regulations governing wetland areas. As landowners whose livelihood is earned from working the land, producers need consistency and certainty in federal regulations.

Those of us in agriculture want the federal government to speak with one voice when making wetland determinations on farmland. A large share of producer problems with wetland cases in rural areas are the result of contradictory advice given by the various federal agencies that have a legislated interest in the issue. The confusing weave of agency jurisdiction unfairly traps innocent and well-intentioned landowners who simply want answers to their questions.

We support the efforts of Congressman Jimmy Hayes in H.R. 1330, which classifies wetlands based on value and functional importance, while providing for just compensation to landowners if there is a regulatory "taking" of wetlands. H.R. 1330 also requires the presence of all three factors--water, soil and vegetation--as necessary indicators before a wetlands determination can be made.

It is imperative that the Clean Water Act contain new wetlands language that provides fair and reasonable regulation. Congress should provide necessary protections to true wetland areas, while respecting individual property rights and providing for minimum restriction of available agricultural land.

### Conclusion

Livestock and poultry production will continue to be a vital part of environmentally sound farming operations. Methods exist to reduce run-off from these operations and thus improve water quality, but producers need financial and technical assistance to achieve these objectives. Significant progress toward water quality is being made through programs currently administered by the USDA. We hope these programs will be allowed to work before additional regulatory requirements are placed upon the agricultural community.

The livestock and poultry sectors recognize the role that we, as members of the nonpoint source community, must play in protecting our environment. We recognize the need to further educate producers about the importance of protecting the environment. Our organizations are willing to work with the Committee to find creative solutions that protect our nation's waters, while maintaining the financial viability of our members.

TESTIMONY OF  
PETE WENSTRAND  
ON BEHALF OF  
AMERICAN SOYBEAN ASSOCIATION  
NATIONAL BARLEY GROWERS ASSOCIATION  
NATIONAL CORN GROWERS ASSOCIATION  
NATIONAL COTTON COUNCIL OF AMERICA  
NATIONAL ASSOCIATION OF WHEAT GROWERS  
U.S. RICE PRODUCERS GROUP  
TO THE SUBCOMMITTEE ON WATER RESOURCES AND THE ENVIRONMENT  
HOUSE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION  
APRIL 22, 1993

Thank you, Chairman Applegate, for the opportunity to address your subcommittee today. I am testifying on behalf of the National Corn Growers Association, of which I am Vice President, and the American Soybean Association, the National Barley Growers Association, the National Cotton Council of America, the National Association of Wheat Growers and the U.S. Rice Producers Group. Our organizations work closely on environmental issues and are especially interested in the reauthorization of the Clean Water Act.

At the outset, I want to stress that we enthusiastically support the positions on legislation addressing nonpoint source pollution that were developed last year by a broad-based coalition of agriculture industry groups. One of our allies in this effort, the National Cattlemen's Association, is also represented here today, and our joint position paper is attached to their testimony. We look forward to working with NCA and the other groups as the reauthorization effort continues.

I'd like to take a few minutes to outline some points of particular interest to crop farmers, whose operations stand to be significantly affected by some of the proposals that have been put forth so far in the debate over the Clean Water Act rewrite. In short, we favor adequate protection for our nation's water resources while ensuring that agriculture is provided an opportunity to contribute to water quality enhancement by means that are technically and economically viable. We feel the current authority in Section 319 of the Act provides a valuable framework for managing nonpoint source pollution and should not simply be cast aside in favor of a new regulatory approach.

First among our core principles is that the federal government should allocate additional resources to states to assist them in better identifying water quality problems and activating effective management strategies to address the problems. Second, greater financial commitment should also be directed to research, monitoring and assessment programs to enable effective and cost-efficient responses to water quality problems. Finally, where problems are identified, landowners should be encouraged to adopt voluntary, site-specific water quality best management practices through cooperative programs which provide education, technical assistance and incentives to accelerate BMP installation.

We also recognize that, in some cases, the Environmental Protection Agency may need to give additional direction to state agencies as they develop plans to achieve water quality goals. Any such new oversight activity should, however, preserve the flexibility of state and local authorities to tailor programs to fit their local situations.

As for our interest in continuing a voluntary approach to protecting water resources, there are several federal programs with the potential for improving water quality which have been warmly received by farmers. Perhaps best known is the Conservation Reserve Program, which will reduce erosion and runoff on more than 36 million acres nationwide. The Rural Clean Water Program, run between 1980 and 1990, established several pilot projects for testing the effectiveness of management practices for managing nonpoint source pollution. Ongoing efforts include the Great Plains Conservation Program, the Agricultural Conservation Program and the Water Quality Incentives Program, which encourages producers to enter into three- to five-year agreements to put into place resource conservation practices.

It should also be recognized that the conservation compliance requirements for highly-erodible land established in the 1985 farm act have contributed significantly to water quality improvement.

While I realize this subcommittee does not hold the purse strings for water quality programs, permit me to address the issue of funding for a moment.

Appropriations for Section 319 programs, first approved in fiscal 1990, have averaged only \$47.8 million per year. It should come as little surprise that some states have been less than enthusiastic about enacting vigorous nonpoint source programs when, on average, they can expect to receive less than \$1 million per year to carry them out.

There are some encouraging signs on this front, however. In its fiscal 1994 budget proposal, the Clinton Administration has proposed increasing 319 funding to \$80 million. We also applaud the Administration for proposing an additional \$47 million for Section 319 projects in fiscal 1993, atop the \$50 million already appropriated. Our organizations feel these developments are a strong signal of support from the Administration for the nonpoint source pollution management approaches envisioned in Section 319. Accordingly, we encourage this subcommittee to authorize significant new resources to ensure that quality nonpoint source programs can be put into effect.

At the same time, we were disappointed to note that no funds were specified for the Water Quality Incentives Program as part of the fiscal 1994 budget for the U.S. Department of Agriculture. We hope that the Appropriations Committees will see fit to at least continue this year's funding level of \$15 million.

Getting back to our preference for voluntary programs, there is ample evidence that when farmers are provided with information on management practices which minimize erosion and runoff and enhance their economic viability, they are quick to adapt. In my personal situation, I farm about 1,500 acres of corn, soybeans and wheat in a "no-till" system. I realize no-till farming is not a viable alternative in all areas. I am simply pointing out that information on reduced tillage was available to me, I evaluated it from an economic and environmental standpoint and decided to try it out -- without facing any government mandate to do so.

In a study released earlier this month in my home state of Iowa, researchers found that a policy similar to that which our groups support -- based on increased research and education efforts -- would result in significant improvements in water quality while maintaining the profitability of agricultural production. One of the researchers, Michael Duffy of Iowa State University, said that a state investment of \$1.5 million to \$2 million would help farmers reduce nonpoint source pollution. That is only slightly more than the \$1.4 million in Section 319 funding that EPA allocated to Iowa in fiscal 1992. Obviously, the figures will vary from state to state.

Our message today is that we can improve water quality -- without burdensome regulation or taxation of inputs -- through reasonably-funded programs that encourage farmers to carry on a legacy of stewardship while maintaining their economic ability to produce food and fiber for a world market.

Mr. Chairman, thank you again for the opportunity to testify today. Our nation's farmers look forward to working with your subcommittee to protect our water resources and maintain the profitability of agriculture.



# REAUTHORIZATION OF THE FEDERAL WATER POLLUTION CONTROL ACT

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WEDNESDAY, MAY 5, 1993

HOUSE OF REPRESENTATIVES, SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT, COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION,

*Washington, DC.*

The subcommittee met, pursuant to call, at 9:30 a.m., in room 2167, Rayburn House Office Building, Hon. Douglas Applegate (chairman of the subcommittee) presiding.

Mr. APPLGATE. If everybody would please take their seats, we will proceed with today's hearing. I think there are a few still trying to squeeze in the door.

This morning the Subcommittee on Water Resources and Environment meets to continue its hearings on the reauthorization of the Clean Water Act. We will be receiving testimony from two agencies which will have a large role to play in this process.

First, I welcome Ms. Carol Browner, the Administrator of the Environmental Protection Agency, to the subcommittee. This is Ms. Browner's first appearance before the subcommittee, or any other subcommittee of the Committee on Public Works and Transportation.

I expect that as we continue our efforts on Clean Water Act reauthorization; that as we begin our efforts on Superfund reauthorization; and as we explore other issues such as the establishment of the revolving loan funds for the construction of water supply facilities, we on the committee will have ample opportunity to exchange ideas with the Administrator, and develop effective responses to our Nation's environmental and infrastructure needs.

Ms. Browner comes to the Administration from her post as Secretary of the Department of Environmental Regulation for the great State of Florida, and in that role she worked to deal with the greatest challenge in environmental regulation: Balancing a mandate for environmental protection with the need for economic growth. Her tenure in Florida was marked by a decrease in regulatory burden, an increase in community involvement, and the substitution of dialogue and incentives for confrontation and legislation.

We look forward to Ms. Browner's exercising these admirable skills in administering EPA's programs.

We will also be receiving testimony on behalf of the Department of the Army from Dr. G. Edward Dickey, the Acting Assistant Secretary of the Army of Civil Works. Dr. Dickey has twice filled the role of the acting assistant secretary and has testified before the

subcommittee on several occasions over his 20 years with the Army, and we welcome him back to the subcommittee.

Dr. Dickey is here primarily to discuss clean water reauthorization issues related to section 404, the regulation of the deposition or dredged or filled material into the waters of the U.S., including wetlands, and I certainly look forward to his comments.

I will now yield to my very distinguished colleague, Mr. Sherwood Boehlert, the Ranking Republican Member of the subcommittee.

Mr. BOEHLERT. Thank you very much, Mr. Chairman.

I would like to begin today's hearings on the reauthorization of the Clean Water Act by welcoming Administrator Browner and Dr. Dickey, and it is propitious timing because the Senate had the good judgment yesterday to pass legislation elevating EPA to cabinet level status.

I want you to know, in the spirit of bipartisanship, the originators of that legislation in 1988 were now Governor Jim Florio of New Jersey and me. So you belong at the cabinet level and we want to make certain you get your seat there and the House will follow through rapidly.

I think your thoughts and the thoughts of Dr. Dickey on America's water policies will play a major role in the reauthorization legislation this committee is preparing. During the 102d Congress, the reauthorization of the Clean Water Act never really got off the ground and that is unfortunate. However, this year's consideration of the act brings to the table a new and highly enthusiastic cast.

Under the new leadership of Norm Mineta and Bud Shuster at the full committee level and Doug Applegate at subcommittee level, I am confident that this committee will set a meaningful new direction for our Nation's clean water policies.

This committee, with the guidance of EPA and the Corps must develop clean water policies that address the challenges and realities of the 1990s. Since 1972, this committee has passed legislation to reauthorize the Clean Water Act on three separate occasions, and in each of these instances the act was successfully tuned to meet new challenges in both regulation and funding.

Today, nonpoint sources of pollution constitute over half of our water quality problems, the majority of new wastewater construction needs are in small rural communities, and our Nation's wetlands are continuing to disappear at an alarming rate. Our policies must address these and a host of other realities.

While I welcome Administrator Browner here and I want very much to make certain that this House follows the Senate action and elevates you to cabinet level status, I would insert one little comment. I am somewhat disappointed that we didn't get your testimony until eight o'clock this morning. And I can appreciate the problem that you are having getting the new team assembled and everything else, but we should have had the testimony beforehand.

We will work with you. You are going to find you have some partners here that want to make your job easier for you.

Thank you very much, Mr. Chairman.

Mr. APPLEGATE. Thank you, Mr. Boehlert. And Chairman Mineta was to be here at the outset, however, he has not been able to make it as yet. However, we look up and down the line, and does

anybody have any questions or any statements that they would like to make at this time?

We will start with Mr. Menendez, who was here first, I believe.

Mr. MENENDEZ. Thank you, Mr. Chairman. In the interest of time I have a statement that I would like included in the record without objection.

Mr. APPLGATE. Without objection.

Mr. MENENDEZ. I will then ask Ms. Browner questions when the time comes. Thank you.

[Mr. Menendez' prepared statement follows:]

**ROBERT MENENDEZ**  
13TH DISTRICT, NEW JERSEY

**COMMITTEE ON PUBLIC WORKS  
AND TRANSPORTATION**

**SUBCOMMITTEES**

SURFACE TRANSPORTATION

WATER RESOURCES

ECONOMIC DEVELOPMENT

**COMMITTEE ON FOREIGN AFFAIRS**

**SUBCOMMITTEES**

WESTERN HEMISPHERE AFFAIRS

INTERNATIONAL OPERATIONS

CAUCUSES

ARTS CAUCUS

HISPANIC CAUCUS

URBAN CAUCUS

MAJORITY WHIP AT LARGE



**Congress of the United States**  
**House of Representatives**  
**Washington, DC 20515-3013**

STATEMENT BY  
CONGRESSMAN ROBERT MENENDEZ  
PUBLIC WORKS AND TRANSPORTATION  
WATER RESOURCES SUBCOMMITTEE HEARING  
WITH E.P.A ADMINISTRATOR CAROL BROWNER  
AND ACTING ASSISTANT SECRETARY OF THE ARMY ED DICKEY  
MAY 5, 1993

REF: 10  
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Administrator Browner, Secretary Dickey, thank you for appearing in front of this subcommittee to discuss issues which may be important to us as Legislators, but are vital to the livelihood of many people back home.

As you are aware, the Port Authority of New York and New Jersey submitted an application for routine maintenance dredging of the berths at Port Newark/Elizabeth more than three years ago. Because traces of dioxin were found in the sediment, this application was turned into a national test case, subjected to intense scrutiny by dueling Government agencies and unending tests. This process was delayed over and over. Each time a decision was expected, the standard by which the tests were measured changed, and a new battery of tests were required. When one Government agency approved of issuing the permit, another Agency decided to enter the process and raise new objections.

In order for the port to remain commercially viable, maintenance dredging must be performed annually. As a result of the three year delay, the port has become a hazard and can not accommodate fully loaded vessels. Recently, the port's second largest customer moved it's East Coast deepwater port to Canada and several other users have pulled out of lease negotiations because of hazardous conditions. The ships which continue to use the port have been forced to reduce their loads. During the last quarter of 1992, the port suffered a 2 to 3 percent loss of cargo tonnage and it is estimated that longshoremen lost at least 100,000 hours of work because vessels are not coming in fully loaded. Each year, the port generates over \$20 billion and supplies more than 180,000 jobs. Each day the dredging permit is unnecessarily and unreasonably delayed, we are putting the livelihood and security of these people and their families at stake.

By preventing maintenance of the berths, we are also unnecessarily harming our environment. Each day that the dioxin-

contaminated silt is left in the bay, this poison is spread throughout the area and dragged out to sea by ships. In fact, 1993 test results have shown that dioxin concentrations in the areas to be dredged are "significantly less" than when originally sampled in 1990. Dredging the berths, removing the contaminated soil, and placing it in an ocean disposal site where it can be capped and monitored is the most environmentally sound action at this time. How can allowing this harmful chemical to float freely be the best course of action for the environment? Each day ships containing chemicals and toxic materials are in danger of rupturing their hulls, causing a major environmental disaster.

In the Water Resources Development Act, the E.P.A. and the Army Corps of Engineers were required to submit to Congress a plan for the long-term management of dredged material in the Port of New York and New Jersey. As you work on this plan, I strongly urge you to find alternatives to the ocean disposal of contaminated sediment by developing the means and methods for locating and constructing permanent, cost-effective long-term disposal sites for the disposal of dredged materials.

Administrator Browner, when you met with me personally in an attempt to resolve this problem, you expressed frustration that the laws governing the permit process were somewhat convoluted. Next week, I intend to introduce legislation which will clearly define the process by imposing concrete time constraints and requiring a uniform, consistent standard by which an application is judged. Applicants deserve fair and timely consideration.

First, the bill establishes a definitive time limit on the entire process. The Secretary and the Administrator must make a determination regarding whether to issue a permit within 255 days after the Secretary receives an application. Applicants will not be strung along anymore.

Second, this bill requires that the standard in effect on the date an application is filed with the Secretary will be the standard applied to that application. No longer will the rules be able to change in the middle of the game.

Lastly, this legislation improves the criteria by which a determination is made. The Secretary must consider the effect that the failure to dredge the material will have on human health and welfare, including economic, esthetic, and recreational values.

Administrator Browner and Secretary Dickey, I look forward to working with you during this Congress on the implementation of this legislation, thereby establishing a clear, fair, and timely process for evaluating dredging permit applications. Thank you.

Ms. NORTON. Mr. Chairman.

Mr. APPLGATE. Let me go to the subcommittee chairman, Mr. Rahall.

Mr. RAHALL. Thank you, Mr. Chairman.

I ask unanimous consent also to submit an opening statement in the record and also questions in writing, if need be.

Mr. APPLGATE. Without objection.

Mr. RAHALL. Thank you.

[Mr. Rahall's prepared statement follows:]



STATEMENT OF

REPRESENTATIVE NICK J. RAHALL, II

CLEAN WATER REAUTHORIZATION HEARING

SUBCOMMITTEE ON WATER RESOURCES AND THE ENVIRONMENT

MAY 5, 1993

MR. CHAIRMAN: I would like to take this opportunity to thank you for holding these hearings and to thank you Director Browner for coming before the subcommittee.

Clean water is one of the most basic requirements for life. This requirement does not discriminate by the size of the community in which one lives nor by the economic base of the community. We all need clean water. Unfortunately, we all do not have the same access to clean water.

Since the State Revolving Fund was instituted and increasingly over the past few months, there has been a lot of

discussion about the ability of small, rural communities to afford proper sewage treatment facilities. These are the people whom I was elected to serve and I can attest that they are having great difficulty building these facilities.

The SRF was designed to be a self-sustaining loan fund. Unfortunately, as many people have testified before this subcommittee, the communities which most need the help in building wastewater treatment systems cannot afford the loans which the SRF's provide. The communities in my district do not have the population bases of cities like New York or Chicago over which to spread the cost of building a treatment system.

While I believe that small, low income, rural communities must be encouraged to take responsibility for their wastewater and drinking water needs, we have to find a way to make the monies provided through the SRF program more accessible to

them. To this end, I have introduced HR 1544, the Rural Community Environmental Assistance Act.

HR 1544 addresses many aspects of the SRF program which create difficulties for small, poor, rural communities. It dedicates a portion of the fund to such communities and provides for grants and low or zero interest loans for them. It also extends the loan repayment period to thirty years.

Another reason that small communities have difficulty complying with federal mandates is that they just do not have the technical know how to run sophisticated systems. In my bill, I provide funding for regional, State and local agencies and not-for-profit organizations that provide municipalities with training and technical assistance.

The importance of this provision cannot be overlooked. Small community officials are often volunteers. They do not have the skills to design and operate systems on their own nor

do they have the funds to hire engineers. These officials rely on the expertise of training and technical assistance programs through state agencies or non-profit organizations.

It is my hope, and all indications are, that the needs of small communities will be considered as the Public Works committee reauthorizes the Clean Water Act. Ms. Browner, I look forward to what you have to say about this urgent matter in your testimony.

Mr. APPLEGATE. Ms. Norton.

Ms. NORTON. Mr. Chairman, I ask permission to insert a statement in the record and I would like to say on the record that we welcome Administrator Browner, and to say to her that I know she is working at an environmentally unsafe habitat as well, and that in another of our subcommittees we are hard at work in trying to correct that situation.

Thank you, Mr. Chairman.

Mr. APPLEGATE. Thank you.

[Ms. Norton's prepared statement follows:]

ELEANOR HOLMES NORTON  
DISTRICT OF COLUMBIA

COMMITTEE ON  
PUBLIC WORKS AND TRANSPORTATION

SUBCOMMITTEES  
VICE CHAIR PUBLIC BUILDINGS AND GROUNDS  
WATER RESOURCES AND ENVIRONMENT

COMMITTEE ON  
POST OFFICE AND CIVIL SERVICE

SUBCOMMITTEE  
CHAIR COMPENSATION AND EMPLOYEE BENEFITS



**Congress of the United States**  
**House of Representatives**  
Washington, D.C. 20515

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THE DISTRICT OF COLUMBIA

SUBCOMMITTEES  
CHAIR JUDICIARY AND EDUCATION  
FISCAL AFFAIRS AND HEALTH

JOINT COMMITTEE ON THE ORGANIZATION  
OF CONGRESS

DEMOCRATIC STUDY GROUP  
EXECUTIVE COMMITTEE

**OPENING STATEMENT OF CONGRESSWOMAN ELEANOR HOLMES NORTON**  
**HEARING ON REAUTHORIZATION OF THE**  
**FEDERAL WATER POLLUTION CONTROL ACT BEFORE THE SUBCOMMITTEE ON**  
**WATER RESOURCES AND ENVIRONMENT**  
**May 5, 1993**

I want to welcome Administrator Browner and Assistant Secretary Dickey. Their testimony is critical to the legislation this subcommittee must shape this session.

Had the President's supplemental stimulus package passed an additional 47 million dollars would have immediately gone into vital Clean Water Act programs and would have created desperately needed jobs.

The larger reauthorization of the Clean Water Act must proceed with its vital array of programs. The health of the environment and of individual Americans is contingent upon our work. The concern of Americans with the quality of their water has never been greater.

In addition, I have identified a departure designed to make us all face up to the devastation of America's urban waterways. The urban waterways are household names. The Detroit River, the Los Angeles River, the Chicago River, the Platte River in Denver, the Hudson River in New York, the Lackawanna in Pennsylvania, and here in the Nation's Capitol, the Anacostia. The Anacostia River has just been named the "Most Endangered Urban River In America". These are the rivers that built America they have been central to industry and commerce, and have provided drinking water, food, and recreation. Although these rivers are in plain view every day, they have been plainly ignored. Their survival is a miracle of nature when we consider the enemies that plunder their shores everyday.

As a member of this Subcommittee, I am working with its staff as well as my own to introduce an Urban Watershed Restoration program as part of the Clean Water Act. We envision major roles for the federal government, state and local governments and especially citizen action.

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Administrator Browner is to be commended for the way she is seizing the initiative to revive the EPA and its programs on an issue of major importance to her. I want to assure the Administrator that I am hard at work on a plan to find an environmentally safe and comfortable habitat for her own employees.

Again I welcome Administrator Browner and Assistant Secretary Dickey to this hearing and look forward to their testimony.

Mr. APPLGATE. Mr. Zelif.

Mr. ZELIFF. Thank you, Mr. Chairman. I too welcome the new administrator that comes before us as well as Dr. Dickey.

The reauthorization of the Federal Clean Water Act will represent the most significant environmental initiative to be considered during the 103d Congress. Decisions that we are going to be making regarding such issues as wetlands regulation, funding for sewage treatment works, combined sewer overflows, nonpoint source pollution and others will definitely have a profound impact on this country both in terms of environmental protection as well as the financial well-being of the many communities faced with pressing and costly water treatment needs.

When I talked to our mayors up in New Hampshire and town managers in my district, I continue to hear the hardships these communities face in meeting the cost of compliance with Federal clean water regulations; costs that are inevitably shouldered by ratepayers. Clearly one of the major priorities that we will be facing will be making the State Revolving Loan Program work more effectively.

I would like to say that in New Hampshire we have had a task force on Superfund, working with the highest levels of EPA, and probably one of the most, I think, refreshing days of my life was about two months ago when we met over at your headquarters working out how we can make the existing law work better administratively; what we need to do to change future laws. And I am very positively looking forward to some excellent work and enjoyed working with Bill Riley as well, so we wish you the best.

Mr. APPLGATE. Thank you. Mr. Poshard.

Mr. POSHARD. Thank you, Mr. Chairman. I would like unanimous consent to submit a statement for the record.

Mr. APPLGATE. Without objection.

[Mr. Poshard's prepared statement follows:]

OPENING REMARKS OF THE HON. GLENN POSHARD  
SUBCOMMITTEE ON WATER RESOURCES and ENVIRONMENT  
MAY 5, 1993  
9:30 a.m.

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE, I AM PLEASED TO BE HERE THIS MORNING TO HEAR TESTIMONY FROM THE ENVIRONMENTAL PROTECTION AGENCY AND ARMY CORPS OF ENGINEERS, TWO AGENCIES THAT PLAY A LARGE ROLE IN IMPLEMENTING THE PROVISIONS OF THE CLEAN WATER ACT.

I REPRESENT A LARGE RURAL AREA IN CENTRAL AND SOUTHERN ILLINOIS THAT IS LARGELY A COAL MINING AND FARMING COMMUNITY. THE FARMING COMMUNITY, IN PARTICULAR, HAS MANY CONCERNS REGARDING THE DELINEATION AND CLASSIFICATION OF WETLANDS. BOTH THE ENVIRONMENTAL PROTECTION AGENCY AND THE ARMY CORPS OF ENGINEERS HAVE JURISDICTION OVER THE NATION'S WETLANDS. SO I HAVE A PARTICULAR INTEREST IN HEARING FROM THESE TWO AGENCIES ABOUT THEIR EFFORTS TO WORK TOGETHER IN EVALUATING WETLANDS ISSUES AND REVIEWING APPLICATIONS UNDER THE SECTION 404 PROGRAM.

THANK YOU, MR. CHAIRMAN, FOR HOLDING THIS HEARING, AND I LOOK FORWARD TO HEARING FROM THESE TWO PANELISTS.

Mr. APPLGATE. Anybody else on this side? Anyone else?

Ms. Browner, if you would like to come to the table. I would also say we did only receive your testimony this morning, I believe at eight o'clock, and Dr. Dickey's last evening at four o'clock, and we do like to have that testimony before the committee so we have ample time to be able to review it properly, and we like to have it 48 hours before we enter into the hearings.

**TESTIMONY OF HON. CAROL M. BROWNER, ADMINISTRATOR,  
U.S. ENVIRONMENTAL PROTECTION AGENCY, ACCOMPANIED BY MARTHA PROTHRO, ACTING ASSISTANT ADMINISTRATOR FOR WATER**

Ms. BROWNER. Mr. Chairman and members of the Committee, you have my deepest apologies for the delay in the testimony being delivered. The interagency comment process on all testimony to be provided to the Congress has not been fine tuned yet. We, obviously, accept full responsibility for the delay, but we did not receive the comments from all of our sister agencies until yesterday evening. We have to, obviously, as an Administration, do a better job. We will certainly do our part to see that those changes occur.

I am very, very sorry for the delay in the testimony reaching you. You are absolutely right, for you to be able to review it, we have to get it up here. To be able to have a meaningful dialogue, we need to get it to you in advance.

I appreciate the opportunity to be here to testify before the Chairman and the members of the Subcommittee. I am Carol Browner, Administrator of the Environmental Protection Agency. Accompanying me this morning is Martha Prothro, Acting Assistant Administrator for Water.

The issues we are going to discuss today are extremely important to all the people in this country. There are many important challenges that face our Nation as we undertake to achieve the goals of the Clean Water Act.

Mr. Chairman, I appreciate your role in fostering this process of reauthorization. I look forward to working with you and your colleagues on the many issues involved. During this process we need to tap the energy and ideas generated by people in the public and private sectors and to involve those with the State not only in achieving the goals but in implementing the solution by which those goals are to be obtained.

Investment in our natural resources not only reflects our obligation to act as stewards of our environment, to hold the environment in trust for our children, but also represents sound economic policy.

As we begin the Clean Water Act reauthorization process, we must consider the ecological and human health dimensions of protecting our aquatic resources. Today's problems are very different than those of the past. Our efforts to protect the water quality of our rivers, lakes and streams today must go well beyond the individual physical and biological integrity of these water bodies. Our efforts must also encompass the integrity of the surrounding watersheds that are an integral part of the total ecosystem. We should set clear expectations that water quality will focus on aquatic ecosystem protection, not just on cleaning the chemical water column.

Although we face many challenges, I would like to focus my testimony today on five particularly critical issues: protection of watersheds, control of polluted runoff and related nonpoint source issues, toxics and pollution prevention, funding, and strengthened enforcement mechanisms as well as other improvements to EPA's programs.

#### WATERSHED PROTECTION

EPA strongly supports what we call the watershed protection approach. By this we mean an approach to water resource protection that looks first to the water resource itself, including ground water, which evaluates its needs and then tailors solutions to those needs to the participation of stakeholders in every phase of the process.

As the Act itself envisions, the focus of watershed protection is on the biological and physical as well as chemical integrity of our Nation's waters. This framework provides us with the methods and the solutions needed to tackle the problems still facing our waters, especially those problems that are too diffuse and difficult to tackle in any other way. Focusing on the watershed as a whole system rather than focusing on specific sources of pollution within the watershed is essential to ensure that we succeed in restoring and protecting our aquatic resources.

The Chesapeake Bay initiative is one good example of watershed protection that focuses on specific sources of pollution. This effort has involved many Federal agencies, three State governments, local governments and citizen advisory groups in a comprehensive effort to restore and protect this region's critical natural resource, the Chesapeake Bay. Its protection and restoration also represent an active and collective movement by citizens, industries and fishermen who depend upon its waters.

I believe the Clean Water Act generally provides EPA and the States with the authority we need to look at the entire aquatic ecosystem; however, I would encourage Congress in its reauthorization process to refine statutory requirements to ensure effective implementation of this comprehensive approach. For example, we can encourage more comprehensive and cost-effective solutions to the many stresses on a watershed by consolidating planning and priority setting requirements under the Act and modifying the timing of various reporting requirements.

Wetlands are an important component of healthy watersheds. The EPA and the Corps of Engineers share responsibility for implementation of the 404 program and EPA is responsible for approval and oversight of State 404 programs. EPA is also working with Federal agencies, States, local governments and private landowners to encourage a better understanding of wetlands restoration and protection beyond the 404 program.

While historically we have focused our efforts on degraded water bodies, we must also not forget the importance of preserving pristine areas. As the saying goes, an ounce of prevention is worth a pound of cure. We must move above and beyond treatment as a cure and recognize that acquisition and preservation of unspoiled habitat represent a long-term investment for us and our future generations.

## POLLUTED RUNOFF

Polluted runoff, sometimes referred to as nonpoint source pollution, is one of our most vexing water quality problems. Nutrients, siltation and pathogens from agricultural activities, septic systems, urban areas and forestry are responsible for the most common pollutants causing the degradation. These sources have also been linked to nitrate contamination of ground water. In this context, I believe we must confront the consequences of poorly managed land use activities on our Nation's ecosystems and address the habitat degradation and destruction that frequently results.

At this stage, I believe there are several basic principles that should guide our discussions of polluted runoff. First, State nonpoint source management programs based on effective local participation should be strengthened. EPA should help to set clearer technical base lines for nonpoint source controls and management practices. Also, we must improve our scientific understanding of the means to control problems such as nutrient and siltation pollution and improve the tools to address them. In this effort, we will need to work closely with other Federal agencies such as NOAA, the U.S. Department of Agriculture, and the Departments of Interior and Transportation.

Second, voluntary approaches should remain the primary focus but backup enforcement requirements are needed when voluntary approaches fail to produce necessary environmental improvements. Where feasible, pollution prevention should be the approach of first choice for addressing nonpoint source pollution.

Finally, we should encourage innovation, including public-private partnerships and greater use of market based incentives. Federal funding should support State and local actions but should not be a prerequisite to accelerating progress.

## TOXICS AND POLLUTION PREVENTION

Although I have tended to focus attention on problems that have been overlooked in the past, I think we also need to be reminded that toxic pollutants remain a critical threat to our Nation's waters, despite our substantial progress over the past two decades.

In the water program, as in all our environmental programs, traditional end-of-the-pipe approaches have often served us well and have been the driving force behind the significant water quality gains of the past. However, we have learned that treatment and disposal are simply not enough if we wish to continue to make progress. A more comprehensive prevention-oriented approach, coupled with a strong base program, will allow us to move even more effectively towards meeting the overall goals of the Clean Water Act.

I believe this is particularly important if we are to achieve additional reductions in the discharge of toxics. In promoting pollution prevention, we would like to explore with you how to amend the Clean Water Act to help larger dischargers develop pollution prevention plans tailored to suit their respective industries.

We also believe that the statute should be amended to allow EPA to prohibit controls that simply transfer residual pollutants from one medium to the next. Pollution prevention approaches, such as

switching to different process solvents, may produce permanent solutions to environmental problems, solutions that do not need to be maintained or replaced periodically as do add-on control technologies.

In addition, prevention oriented approaches can help us meet statutory goals and requirements through market forces and economic incentives, thereby producing an economic as well as an environmental benefit.

#### FUNDING

As we work toward reauthorizing the Clean Water Act, we must also remember the value and the cost of clean water. The Nation's waters, whether polluted or pristine, are our children's inheritance. Measures we take now must not only return what is lost but also guard against what is yet unblemished. Needless to say, these responsibilities carry a substantial price tag.

We expect water safe enough to swim in, to fish from and to drink, and we expect healthy and diverse populations of plants and animals in our lakes, streams, wetlands, estuaries and oceans. Consequently, we must also expect to assume the cost of treating our wastewater and our drinking water.

By funding States and municipalities adequately, we can help ensure reliable infrastructure of wastewater, sewers, sewage treatment plants and drinking water supply and treatment facilities upon which public health, our quality of life, and many of our important economic sectors depend.

Accordingly, we support the creation of a new State Revolving Fund to facilitate funding for storm water, combined sewer overflows and nonpoint source management and other high priority problems. We also support the creation of a new drinking water State Revolving Fund. Clean, safe water was once viewed as free, but in our modern society this may no longer be true. Just as we believe the polluter should assume, at a minimum, the cost associated with permitting, all of us as users of our water resources must appreciate and help bear the cost of water quality protection.

As you know, financing necessary treatment projects has become in many parts of the country both difficult and expensive. We must be sensitive to the importance of using water efficiently to help keep costs down and to prevent further degradation of our aquatic ecosystem. By acknowledging public and private responsibility for the cost of clean, safe water, we also foster greater invention and innovation. It is in all of our interests to improve water quality in the most cost-effective manner possible.

A vigorous enforcement program remains an integral component of successful Clean Water Act implementation. We believe the Clean Water Act can be strengthened to improve EPA's enforcement authority, thereby allowing us to respond more effectively to facilities that are not in compliance with the Act's requirements.

The Clean Water Act is one of the best statutes we have. It provides us with a valuable opportunity to consider new and innovative solutions to complement the existing array of successful tools and programs we already have to protect human health and the environment. We believe adopting a watershed protection approach is very important.

Similarly, we recognize that we must increase our emphasis on pollution prevention as the most practical and cost-effective means of approaching the Act's zero discharge goal. In concert with a strong point source program, we must focus considerably more attention on the sources of polluted runoff and wet weather flows. We cannot forget these pollution sources contribute heavily to our persisting water quality problems.

Finally, we must ensure adequate funding is available to States and municipalities to enable them to execute the responsibilities and obligations that the Clean Water Act entrusts to them.

I recognize that I have described a large task, but our Nation's waters issue us a stark challenge we cannot ignore except at our own cost. I believe this committee shares with me a respect for the purity of our streams, the diversity of life in our estuaries, the dynamic interplay of forces in our watersheds and the safety of our drinking water.

I look forward to working with the Congress, our State and local governments, our sister Federal agencies, citizens, industry and environmental groups to meet this challenge.

Mr. APPLIGATE. Thank you very much, Ms. Browner.

We are privileged of course, always on our subcommittee, to have the Chair of the full committee, Mr. Mineta, here with us at this time I would like to refer to him.

The CHAIR. Thank you very much, Mr. Applegate, and to you and Mr. Boehlert for your leadership in these issues coming before the Water Resources and Environment Subcommittee. I appreciate very much the hard work that both of you are putting into this effort.

I would like to extend a warm welcome to Carol Browner, the very distinguished Administrator of the Environmental Protection Agency. As Secretary of the Florida Department of Environmental Regulation, all of you know that she established a very commendable record in environmental protection and I expect that she will equally distinguish herself in her new and present position.

These subcommittee hearings are very important because reauthorization of the Clean Water Act is probably the most important environmental issue before this Congress. The program itself has accomplished much since 1972 when it was established in its present form, but much remains to be done.

We still face serious pollution problems. These are not easily solved. A huge backlog of needs exist in sewage treatment and pollution from nonpoint sources is a serious problem as are combined sewer and storm water discharges. More emphasis must be placed on pollution prevention and we must examine carefully the issue over discharge of toxics.

Now, the most controversial issue we face in reauthorizing the clean water program is that of wetlands protection. Wetlands serve vital functions of providing essential habitat for waterfowl and shore birds and nursery and spawning grounds for fish. They also lessen flood damages, reduce erosion, recharge groundwater, filter sediments and abate pollution.

Over one-half of the wetlands existing in the lower 48 States at the time of the European settlement have now been lost. So, from my perspective, we must take measures to ensure that remaining

wetlands will be protected and that wetlands restoration and creation take place in order to increase this valuable resource.

At the same time, it is understandable that we must seek to make the wetlands protection program fair and efficient. And we must increase public awareness of the importance of our wetlands resources. Resolution of the complex and controversial issues surrounding wetlands will not be easy, but I am committed to finding a solution.

So I look forward to working with Administrator Browner on this and other issues associated with Clean Water Act reauthorization. I intend to work very closely with members of this committee as well as other committees that have jurisdiction over some phase of the Clean Water Act.

So my door is open, phone lines are open, and I know that with the help of my very distinguished Ranking Republican on the full committee, Bud Shuster, we are going to make sure that we complete our work of the reauthorization of the Clean Water Act so that we can carry this measure forward in the protection of our own future.

Again, I would like to thank Mr. Applegate and Mr. Boehlert for their leadership on this subcommittee and look forward to working with everyone to resolve these issues.

Mr. APPLGATE. Thank you, very much, Mr. Chairman.

We are also very honored to have our distinguished Ranking Member of the full committee, Mr. Bud Shuster, who would like to make an opening statement. Mr. Shuster.

Mr. SHUSTER. Thank you very much, Mr. Chairman. I certainly want to welcome you to the committee. You testified back in the fall of 1991 before the subcommittee and I thought at that time it was very well thought out and balanced testimony.

I agree with you that the Clean Water Act has been a great success and an enormously important piece of legislation. My concern is that we make sure that we spend our money wisely and fairly.

One of the areas of greatest concern to me is wetlands. I hope that we can create some one-stop shopping so that we can streamline that. I think it is enormously important. We have heard some horror stories about overextension and overregulation there, and I am committed particularly in this area to do everything we can to streamline it, and thank you very much for being here.

I have a prepared statement to submit for the record.

Mr. APPLGATE. Without objection, so ordered.

[Mr. Shuster's prepared statement follows:]

Statement of  
Honorable Bud Shuster  
Clean Water Act Hearing  
Water Resources and Environment Subcommittee  
May 5, 1993

Thank you Mr. Chairman. Today the Subcommittee continues its hearings on reauthorization of the Clean Water Act.

We have already heard from state and local governments, environmental groups and the agricultural community on proposed changes to the Act. Today we will hear from the EPA and the Corps.

I want to extend a cordial welcome to Administrator Carol Browner who will testify for the first time in her new capacity as Administrator. She has testified previously before the Subcommittee on behalf of the State of Florida on the issue of wetlands protection. Dr. Dickey has testified numerous times before the Subcommittee and we welcome his testimony.

Mr. Chairman, environmental protection in general and clean water in particular are indispensable to a healthy society. Properly conceived and executed environmental regulation can improve our quality of life and improve economic productivity. On the other hand, poorly directed environmental regulation can waste time and money, stifle economic development, and breed disrespect for the law.

On balance, the Clean Water Act has been a success story. There is, however, a growing need for us to make some revisions and refinements to respond to various funding and regulatory issues. There is an even stronger case for revising the nation's wetlands laws--particularly the Clean Water Act's section 404 permitting program.

I understand that both Administrator Browner and Dr. Dickey, the Acting Assistant Secretary of the Army for Civil Works, will testify on the controversial wetlands permitting program. I look forward to receiving their testimony and exploring ways to make the section 404 program more effective. In my mind, this would certainly include more reasonable regulation, greater flexibility, and greater deference to private property rights.

These same themes also apply to the Clean Water Act. I look forward to Ms. Browner's testimony and hope she will work with us to make Clean Water Act programs more reasonable and effective. Better science, more risk-based approaches to regulation, and more market-based approaches as alternatives to heavy-handed regulation would certainly go a long way.

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Mr. Chairman, thank you for your leadership in conducting these hearings. Through them, we can help to provide for a clean environment and a sound economy that includes more jobs and a stronger national infrastructure.

Mr. APPLGATE. Thank you very much, Mr. Shuster, and thanks again to you, Ms. Browner, for your testimony, and I would say that your entire statement will be made a part of the record, and that if we don't have enough time today to get to ask all of the questions we would like to ask, we will certainly be submitting questions to you and ask for responses as soon as possible.

Because time, I think, really is of the essence, although it seems like we have a great deal of it, we don't, and I think we need to get the job done. And I am hopeful that working in concert that we can, with your input, put together legislation this year that we will be able to see successfully passed. It will not be easy.

Let me ask you this question, about the fact whether or not the Administration intends to submit a comprehensive Clean Water Act reauthorizing proposal to the Congress and, if so, what is the schedule? And I ask that question, and, too, I would like to find out about money.

In your statement, you stated that without additional funding State and local water wastewater programs will not be able to fulfill the mandates of the Clean Water Act or the Safe Drinking Water Act or meet the expectations of the public. What I would like to find out is what do you think, how much additional monies do you think we will need and is the President going to take those recommendations and submit those with a comprehensive plan?

Ms. BROWNER. Thank you, Mr. Chairman. The President's budget, as I am sure you all are aware, does call for the creation of a new Clean Water State Revolving Fund. The jobs package would have completed the \$18 billion commitment that had been made by the Congress to the States to fund a State Revolving Fund, and we believe that it is essential that we expand the focus of such a fund and continue to provide monies to the States.

I think all of us are keenly aware when you visit in your districts and I go out across the country, that while the Clean Water SRF has done a tremendous job, it has not dealt with all of the problems. The funds have not been eligible for use in a way that has in some instances been supportive of local communities. They don't have the rate base, so a 20-year payback is very difficult. Wet weather issues cannot be addressed adequately. And so we would look forward to working with the committee and the Subcommittee to develop legislation immediately focusing on the issues relating to an expanded SRF.

In terms of the comprehensive reauthorization legislation, we would also want to work together with the Committee with the Members and the staff to develop a package. We will make available shortly what we see to be the primary areas of concern and then suggestions in terms of how to proceed.

But it occurs to us, and if this is the will of the Chair and the Committee, that if we can work together on drafting specific legislation, that may be in everyone's best interest.

Mr. APPLGATE. Well, when you are talking about money, are you saying—I believe they are talking about continuing the \$2 billion a year to the State Revolving Fund. I assume when you say additional funding, you are talking about monies beyond that?

Ms. BROWNER. No, the fiscal year 1994 budget calls for \$1.2 billion for a clean, a new expanded Clean Water SRF. That, in the

President's Vision for America document, goes up to \$2 billion in the following years.

Mr. APPLGATE. Wasn't that because the \$1.2 was because they wanted to advance the 800 some into the 1993?

Ms. BROWNER. Right.

Mr. APPLGATE. So since that does not seem to be happening right now, that would be, then, I assume, \$2 billion next year and \$2 on after that?

Ms. BROWNER. We are working with the White House and the Office of Management and Budget to address the very issue you raise.

With respect to forward funding in the jobs package (taking money from 1994 to 1993), we were one of maybe two agencies that found themselves in that particular position and there is a great recognition in the White House that we need to address that \$845 million.

Mr. APPLGATE. Okay, we will talk about that at a later time.

It was noted, I think in the paper, I am not sure what paper, that Bob Perciaseppe, who is currently serving as Secretary of the Maryland Department of Environmental Protection, was being considered for the position of Assistant Administrator of Water. Is that correct?

Do we have somebody that may be coming on board that we might be able to work with?

Ms. BROWNER. Well, we certainly look forward to having all of our AA-ships filled. The White House has moved forward several nominees at the agency, but as you recognize, not the water position. We hope that will happen sooner rather than later, and the White House, in conjunction with us, is looking at a number of very qualified individuals, including Mr. Perciaseppe, who is extremely qualified.

Mr. APPLGATE. I guess we on the committee are somewhat concerned about the lack of administration from the standpoint of making the appointments. Why is it so slow? I mean I don't think this is historical. And let's say even particularly the Assistant Administrator for Solid Waste Emergence Response. We will be getting into and we need some input even now that we won't be able to get to Superfund until maybe a little later time, but we need that kind of input.

What is the reason for—certainly there are people out there that would be able to fulfill many of these roles.

Ms. BROWNER. It is not a question of finding talented people, you are exactly right, there are lots of very committed talented people. The process, quite frankly, in terms of the investigations and the number of investigations, the number of individuals in the process, is quite large. This is a transition that I think is appropriate to compare to maybe a transition of 12 years ago, not to the transition that took place when you stayed within the same party, and it has taken perhaps a little bit longer than everyone would have preferred, but it is not appropriate for nominees to be sent over to the Senate until they have completed the FBI process.

Mr. APPLGATE. Let me just ask you this because I have had an opportunity to talk to people from Boston and different other places and they have monumental problems. It is hard to believe after

seeing some of the outlines of what it is they have to do to meet the Clean Water Act requirements and all. But in light of that, what do you think should be done to assist communities in meeting Clean Water Act requirements, and focusing in on the small and rural communities?

I am very interested in that. I think it is terribly important. I think sometimes they sort of get the short shrift and where the big bucks always go to the larger areas. I don't want to pit one against the other. We don't want to do that. But the small communities have difficulties even far beyond, even if you are working with a much smaller amount of money, but for them trying to raise a half million dollars is just a monumental, an almost impossible task.

Ms. BROWNER. I absolutely agree with you, Mr. Chairman, that the task facing small and rural communities is quite challenging. I think the Clean Water SRF, as historically structured, reflects information that was available when the fund was originally created and some best judgments at that time. I don't think this was an intentional consequence, but the effect has been that for some areas the money is not as available as I think we would all like to see it.

A 20-year repayment schedule, if your rate base is relatively small, is not do-able. So we would like to explore with the Subcommittee options that would make the funds more flexible, for example, we could establish in terms of meeting the needs of small and rural communities. A different payment schedule; maybe you would go to 30 years. Possibly we should probably discuss whether to forgive part of the loan to allow the smaller communities to participate.

I think the thing we have to all remember is that by helping those communities come into compliance, we all benefit and there is a direct benefit to everyone.

You also mentioned the large cities; and I don't know if you wanted me to speak to the large cities that are also encountering some problems.

Mr. APPLEGATE. I think we will get around to that a little later, but would you be in favor of, say, some kind of maybe at least a limited grant program? We on the Committee, Mr. Boehlert and I, are interested in what they call a principal subsidy approach, and you are familiar with that, and which is not a bad idea, but directed primarily towards, say, small town, rural communities of 10,000 or less or something like that.

Ms. BROWNER. I am sure you are aware that in the RDA budget, the administration has called for an increase in \$900 million for grants, of wastewater and drinking water to communities under 10,000. And it may be appropriate and we could work with you in terms of the needs assessment that we do on wastewater to understand how far this goes in terms of meeting the needs out there, and it may be appropriate to look at the Clean Water SRF in the way you have suggested.

Mr. APPLEGATE. Okay, well thank you very much, Ms. Browner. I appreciate your willingness to be here and to talk to us and we will be looking forward to working with you in the future.

Mr. Boehlert.

Mr. BOEHLERT. Thank you very much, Mr. Chairman. I want to encourage the Administrator to work with us on a bipartisan basis and, thus far, the Administration, not you but the Administration, is not getting very high marks working on a bipartisan basis. Now I can say that because I am one of three living Republicans in this town who voted for the economic stimulus plan.

Ms. BROWNER. We appreciate that.

Mr. BOEHLERT. But it was quite by accident. It wasn't because of any effective outreach program on the part of the Administration. It is just that I happened to agree with the basic premise of the program, which leads me to this question.

Are you going to request \$845 in a supplemental now that we have a stimulus program for which apparently the obituary has been written?

Ms. BROWNER. The White House is evaluating options in terms of how to proceed, and we have been in constant contact with those individuals as it relates to the \$845 million. There is tremendous recognition in the White House that we were in a very unique position, that this \$845 million was a very unique pot of money, not similar to most of the other money in the stimulus package and that we were front loading, if you will.

There is also a tremendous recognition that this was something that would move almost instantly to local communities and that would create real jobs. There was a leveraging effect. If you expand wastewater treatment capacity, then you can have expanded development. And it was we thought, really a very nice package.

Mr. BOEHLERT. I take it from your response you are strongly advocating a supplemental?

Ms. BROWNER. We are advocating that the \$845 million be available to local communities in as expeditious a manner as possible.

Mr. BOEHLERT. I am in your corner on that one.

Ms. BROWNER. Thank you.

Mr. BOEHLERT. The next question we deal with is the principal subsidy program. I know it is a nuance, but there are definitions and interpretations. I, for one, don't particularly care for the grant program. I much prefer the principal subsidy concept that says to the States we are going to give you flexibility; we are going to recognize that you know better what is good for the State rather than Washington being the source of all wisdom.

So those communities, and Mr. Rahall and I have been particularly concerned about this, in addition to Mr. Applegate, those small hard-pressed communities in rural America who find it difficult to come up with a couple of bucks to solve the problem, the State would have the flexibility not only to have a no-interest loan but to forgive or subsidize the principal payments. I am enamored of that concept and I intend to push it. We already have it in the other bill, H.R. 1865, that came out of the committee last week.

Could you address that portion of it, the principal subsidy portion?

Ms. BROWNER. Having been in a State for the last two years and dealt with a lot of these communities who just could not make use of the fund, I certainly recognize the need to do something, and I think the suggestion you make is one very worthy of consideration.

The only concern I have, and this is something we should all be conscious of, is the goal in creating the original Clean Water SRF was to cede money to the States so that they would have a fund available and that that fund would be sizable. If we allow a portion of the fund, to become what are in essence grants, but to be administered at the State level, that does deplete the corpus.

That may be the right decision, but I think we just need to think, be aware of that, to be conscious of that.

Mr. BOEHLERT. What is the Administration suggesting, an outright grant program?

Mr. BROWNER. Pardon me?

Mr. BOEHLERT. Isn't the administration suggesting an outright grant program in addition to funding the State revolving fund?

Ms. BROWNER. In the RDA program it is a grant program, that is true. That money is made available to local communities in grant form.

Mr. BOEHLERT. What I am suggesting is we put more money in a State revolving fund program and give the States the flexibility to act as they think best fits.

Now, let me ask you another question. I am sure you are familiar, as the whole world probably is by now, of the David and Goliath situation in New York, the New York City watershed. I have the privilege of representing the watershed area, which involves thousands of people and you have the water needs of millions of people in the metropolitan New York area.

It would seem to me we should have some special consideration for the needs in the watershed area of these small rural towns that are hard-pressed. Is the Boston earmark the only earmark you have in the bill?

Ms. BROWNER. The \$100 million for Boston doesn't specifically say Boston, it is a formula, but we believe that Boston is the only city that will qualify under the formula.

Mr. BOEHLERT. Under what, special circumstances?

Ms. BROWNER. It recognizes special circumstances, and we have called for consideration of the problems of needy cities. We would look forward to working with this Committee, to create a needy cities program for cities that are having a rate shock of the sort that Boston and several other cities are encountering.

Mr. BOEHLERT. Madam Administrator, what I am getting at, you recognize special circumstances in the Boston area, and I won't quarrel with that. As a matter of fact, previously the President is one of the people that pointed out special circumstances in the Boston area, but I would suggest to you when we think in terms of special circumstances, we think in terms of all the metropolitan areas and forget about the smaller areas.

I think there are special circumstances prevailing in the New York watershed area. I can understand the city of New York trying to find an alternative to spending \$5 billion to \$6 billion for a new filtration plant, but I also would hope that everyone in New York City would recognize that the people in the upstate area, in the watershed area, Delaware County, for example, should be able to use their land as they best see fit. And I am wondering if these are special circumstances that might prompt your agency to take a look at being a little more aggressive in helping resolve the problem?

The two sides are meeting now, but I think most of us agree that the upstate communities, the watershed communities, are handicapped in dealing with the big guys, the big boys from the city. And I don't suggest any mischievousness on the part of the New York City people, but I would hope EPA would play a prominent role here in bringing the parties together and recognizing special circumstances.

Ms. BROWNER. I am not specifically familiar with the matter that you raise, but I absolutely think we should, if we can, play a role, if the parties want us to play a role.

The whole idea of looking at the integration of the system as a whole is something that is extremely important to me and to the Agency. I think for far too long we have not done that and that is a common occurrence. It pits urban areas against rural areas or large areas against small areas in a way that is not most protective and conducive to the management of the system and to the needs of all those people who rely on that system.

Mr. BOEHLERT. I want to work with you on this. It is just that it seems to me that once again, in a special circumstances category, if you have a need for a wastewater treatment facility in a watershed town, that would get priority over a need for a wastewater treatment facility in some other locale simply because of the much broader implications. You are impacting on millions rather than just the thousands that might reside in that jurisdiction.

I want to thank you for your testimony. I want to pledge to you my support. I want to express the hope that the next time you are before us I will be able to officially say Madam Secretary, and I wish you well.

Ms. BROWNER. Thank you very much.

Mr. APPLGATE. Thank you very much, Mr. Boehlert. Chair Mineta.

The CHAIR. Thank you very much, Mr. Chairman.

Let me deal with two issues; one is on standards. I come from the Silicon Valley area. High technology is not a stranger to us. I think if I were to take a look at my environmental record in the 19 years I have had, I think it has been a good one, but by the same token I want to make sure that in the reauthorization of the Clean Water Act that we have some commodity relating to pragmatism and common sense.

I am wondering to what extent do you detect or think that our technology is able to detect toxics is outstripping our technology to be able to treat in the area of clean water?

The reason I ask this, from my own experience coming from local government, having been on the city council and then having been elected mayor, at one point in the 1960s, one part per hundred million was a standard because of the capability of the machines to detect something on the basis of one part per hundred million. But as technology got better, it became one part per billion, and now one part per trillion. And each time we have a technological advance, it seems to me that becomes the new standard.

I am wondering to what extent is there the relevancy between the standards that are being set and health and safety?

Ms. BROWNER. Well, you are exactly right. The measurement technology has advanced rapidly. In some instances, the ability to

measure at lower and lower levels has then resulted in an increase in the technology to remove the particular toxin, but not in all. I think what we need to do—and I think the Clean Water Act does do this—is to provide the States with the ability on a site-specific basis, to the flexibility to make decisions based on the watershed as a whole, where the treatment technology has not kept pace with the measurement technology.

The CHAIR. One of the problems in our Silicon Valley area, when I was mayor, we went from roughly 67 mgd on a secondary plant to 120 mgd on an advanced secondary. Subsequent mayors have taken that now up to a plant capacity of 150 mgd at a tertiary level. And now the city of San Jose, which also serves surrounding communities, has been told that the copper in the water going into the receiving waters of the San Francisco Bay is too high.

The level of copper, however, that is being discharged into the San Francisco Bay is lower than our source of water, which is either the Central Valley Project or from pumping from aquifers.

And now the San Francisco Bay Region Water Quality Control Board, in effect, has a cease and desist order against the city of San Jose from discharging further into San Francisco Bay, not only because of the copper content but because of the fact that the discharge is cleaner than the receiving waters, and the salt waters of the San Francisco Bay are now turning brackish.

It is a crazy situation. I am just wondering whose head is up and locked on this thing about pursuing this? This is where I think somewhere between what we intend in law, in terms of quality of life, and the pragmatic effect on a local community is crazy.

EPA is now suggesting that we build a super sewer line from San Jose up to Redwood City, about 25 miles away, along the bay front. But that means building probably a 60-inch sewer line in wetlands going all the way up to Redwood City. It is just crazy. I look at the thing and I think Mr. Hayes must have written the regulations on this thing.

But seriously, it is a crazy situation and it follows this pattern about standards, which is fine, and then as we follow through the scenario and we are at the other end of the legislative pipeline, the effect on the community is just crazy. So I was just wondering what process you have that you go through at EPA in terms of setting standards; and, again, that finally get to the San Francisco Bay Region Water Quality Control Board that says to the city of San Jose, all right, cease and desist?

Ms. BROWNER. Let me say something generally and then I will call on Martha Prothro to speak specifically to the process.

Obviously, the situation you describe is one of concern. It is an example of why it is so important to work with the local communities, to look at the watershed and to develop the actions that you will take, and the solutions that will be imposed based on that analysis. You have to weigh the decision.

I am not specifically familiar with the situation in San Jose, but I believe you would want to weigh the cost to the community consider the other areas where you could actually have the outfall, and look at the benefits to be derived from that and what it does to the watershed as a whole.

The CHAIR. But I wonder to what extent is there that delegation. It seems to me what we have is, "Now Hear This," "Now Hear This," and it comes top down and we don't have the local input into it because it is being mandated from top down.

You know, it is like anything else, if you are going to be mandating it, we are going to have to be more responsible in terms of the cost of those issues. And as Mr. Boehlert says, what do you do with rural and small communities? They cannot use an SRF because they don't have—even if it is a no interest loan—they don't have the ability to pay back.

Ms. BROWNER. Right.

The CHAIR. So instead of this top down, we mount this yes, let us work together.

Frankly, one of the things I am looking at in this Clean Water Act reauthorization is taking an approach that we did in the surface transportation bill that was signed by the President in 1991 and was the work of this committee, and I authored the provisions in the Intermodal Surface Transportation Efficiency Act, now known as ISTEA, where we said localities, State governments do know what kinds of solutions best fit their problems, but we won't only just tell them to solve their own problems, we will also give them the money to do so and the decision-making process.

Now, frankly, I would like to see in this program some kind of an ISTEA approach to States and local governments by watershed, to be able to treat or to deal with their own problems. And I am wondering if in your looking at this reauthorization of the Clean Water Act whether or not you envision doing any of that or is it going to be a strict controlled mechanism from the Federal level?

Ms. BROWNER. We have got to do exactly what you say, which is to provide mechanisms that allow for meaningful participation in the decision-making process, and for meaningful debate about the options and the choices that a community has to make.

I appreciate your statement that it should be on a watershed basis. I think that has got to be the future in terms of—

The CHAIR. Ten years ago we could not have said that; right.

Ms. BROWNER. I don't think we understood in some ways the significance of looking at a watershed as a whole. We understand that now.

We have an opportunity in this reauthorization to bring that understanding to bear.

The CHAIR. Absolutely. Absolutely. Well, in any event, I look forward to working with you on this as well as on the construction side of the safe drinking water.

I really very strongly feel that if the Administration pursues the SRF approach on the Safe Drinking Water Act, which I think is a good way to go, then I want you to keep in mind that we on this committee consider that a public works and construction of facilities and should be within the jurisdiction of this committee. And that we are not interested in setting standards, but anything that purports to be public works, and that would be in terms of, I think in my definition, in terms of construction of facilities, would be a public works.

So I look forward to working with you on that as well as the reauthorization of the Clean Water Act, and I am hoping that we will

have some kind of mechanism to not only, as you say, have participation—because participation may just be listening. I remember when we were writing ISTEA, we even made the distinction between coordination and consultation, because there are different meanings to those words. So I hope that we can make sure that local and State governments are involved in a much more participatory way and not just a top-down approach.

Thank you very much, Mr. Chairman.

Mr. APPLGATE. Thank you, Mr. Chairman, and may I say amen. Mr. Zeliff?

Mr. ZELIFF. I have no questions.

Mr. APPLGATE. Thank you. Mr. Hayes.

Mr. HAYES. Norm Mineta, from Silicon Valley, has shown his technical achievements by turning the "on" button in the correct position. He has now demonstrated even greater prowess.

I am going to probably disappoint the network and most everyone here by telling you that I think you and I agree way more than we disagree, and in that context would urge you, for three reasons that I am going to cover, to support what the Chairman of the Interior, George Miller, has supported, and what I am sure the Public Works Chairman would support and the other affected committees towards the environmental summit on some of these issues.

I notice Senator Boren announced on the Senate Floor a response from the President to his and the concerns of six other Senators leading to an interagency discussion on policy and would urge you to press with others who are interested to expand that. Not in any way contradictory to the content of the President's letter or the theme of it, but the agencies getting together is one important step, but then putting the access of public information so that there is the public support necessary to carry out your regulations and to enforce what we enact into law is placed there.

The questions I have are on three lines only, mainly because of the question of time. I would like to ask a thousand questions, really. The first is technology. We just finished in my Subcommittee on Investigation and Oversight, and I appreciate your participation through those that you sent over, and I appreciate the telephone conversation we had prior to that. We would love to have you at a future date.

What came out of that, and is related to this hearing today, is that we actually deter innovative technology instead of trying to encourage innovative technology. And in the example the Chairman gave, there may well be demonstrations on that in other areas, but in both this program and in Superfund, because of cost that is related, we are deterring that.

One of the areas that was a deterrent was the interagency and within your agency—though, by the way, three or four witnesses very much complimented you on addressing and improving communications between districts and communication with agencies—but, one, what can we do to better reciprocate information on innovative technology that works?

What thoughts—and I know this is preliminary because you have just stepped into office—but what thoughts have you had on how to better have interagency communication of what technology is out there at the levels we have reached?

Ms. BROWNER. First of all, I think, that environmental technology development in this country is an incredible opportunity for the United States. We are on the cutting edge of developing environmental technologies and there is a huge demand for these technologies worldwide. We can be an international leader, and we need to get out there. We need to create mechanisms that encourage innovative technology development, and then we need to assist those companies in marketing it in other countries who are desperate for U.S. technology.

In our budget, we have called for an increase in environmental technology funds. That money would then be available for us to leverage spending in other agencies, like the Department of Energy, to work together in a coordinated way. The dollar amount we get is actually not that big, but it is very significant because of the way it brings us together with the other agencies in a coordinated manner.

The base closures and the DOE cleanups for example are going to provide incredible opportunities for innovative technology development. We look forward to working with DOD and with DOE to facilitate those sorts of activities.

I think this is one of the most exciting issues in the environmental arena right now, the development of new technologies to meet the goals of pollution prevention. I could go on and on but I won't.

Mr. HAYES. And also an admonition, not a criticism, an admonition, but the consequences of doing nothing are great. Because you mentioned earlier, the military installations. There will be no conversion to civilian use if no company can afford to go on that site because of current costs which they would have to absorb of any unexpected consequential problems of what the government did while it was a military installation. These are the kinds of things that realistically we have to face when there is not a fault of a future landowner.

So the technology issue I would press as difficult indeed, but one that you have to lead, I think, and you have an excellent background, and so many people from what was then Congressman Gore's office when he was with the Investigation and Oversight on Science, Space and Technology. It is an excellent entree into it, and without it we will not clean up anywhere.

Because if we are not able to do innovative lower-cost technologies and better technologies, we cannot give enough mandates because there are not enough resources to respond to all our threats and mandates that exist. And I congratulate you on the beginnings of that, and would very much like to work with you on encouraging it and, second, would ask this:

If in the course of the interagency discussions or any other interagency relationships, if you have an opinion as to how legislative barriers have been created and how we can remove legislative obstacles, if they exist to those interagency transfers, I would very much appreciate knowing.

I know the Chairman would, and the Chairman of the full committee which would have appropriate jurisdiction, would love to give you a hand in furthering the interagency agreements.

Second, it is a theme that I want to ask you a couple of questions about. From the Chairman's example and from many others that you have heard, one of the difficulties that I have, in expressing myself regionally, is that my area of the country is such a large wetlands in southwest Louisiana, and Congressman Tauzin next to me, which I think has an endangered species problem with that coastal community which is impacted and quite different.

A young lady who heard you speak a couple weeks ago at a ceremony for people who came from all across the country who were honored, and I think your words were as American heroes for environmental work, she lives in a parish that is coastal, and her comment to me in the office later was, when I talk to folks around here, they don't realize that doing nothing destroys us. They have a mind-set on preservation, meaning do nothing. And we are losing enormous square miles a year in wetlands loss.

We have to be proactive and doing something or there is no preservation; there is no enhancement. That leads me to the difference in localities, and I would like also to know your thoughts on how we might be able to structure the delegation, not just to States, but in some instances perhaps compacts between regions—may or may not cross State lines—to express environmental concerns and balance that may not meet with national policy, with a broad brush, but would complement more localized policy that might have consequential differences that improve environmental conditions and cut down loss.

Have you given any thought to a structure where we might be able to localize or authorities we might grant to localities?

Ms. BROWNER. This is a complicated issue. We at EPA delegate our authorities to a lot of States, and some States have an awful lot of EPA-delegated authority.

The question has come up a better EPA would be willing to delegate past a State to perhaps local governments or to State regional agencies. There is a question of management and of oversight. It becomes increasingly difficult for us with the resources we have to interface with 200 agencies as opposed to 50. But it is not to say that we should not look at mechanisms for allowing the States and encouraging the States to whom we delegate authority to bring in the local and regional governments in a more intelligent and comprehensive manner.

I think that there have been instances where our delegations, perhaps intentionally, perhaps unintentionally, have discouraged those sorts of activities and have failed to recognize the great interest in resources that local governments can bring to this work. Rather than discourage it, we need to actively seek to encourage it.

I think that we all need to recognize that the amount of resources available towards environmental protection at the State and local level, if you take it in its entirety, probably far exceeds what is available at the Federal level. Rather than creating adversarial relationships, we need to create these partnerships and we need to make sure that individual local agencies and State agencies, are using their money in the best way possible with their skills. We also need to make sure that we are using our money in the best way possible with our expertise and skills. We must have

this constant duplication \* \* \* the value of local and regional entities.

Mr. HAYES. The point I would make is, for example, near my district and Congressman Tauzin's district, recently you avoided having to make a difficult call on an elevation. And if you are like me, you always like to avoid making a difficult call. But it wasn't what would be thought of in the ordinary context, if you asked the average person around the country, of industry versus environment or jobs versus environment, it was fish versus ducks. The issue elevated was whether or not in a marsh management plan there would be more clear water or more saline consequences of the competing plans, with Fish and Wildlife taking one position and many groups like Ducks Unlimited and other environmental organizations taking another.

I have no idea what is right or wrong, or even if those words apply. In fact, I don't think those words do apply. But those competing interests, it seems to me, are much better decided with local information than a review coming out of Dallas in Region 6 or an elevation to you, because the issues there are not policy as much as they are how do you make this tough call with local consequences.

I would use that just as an example, saying there are plenty of instances out there where it is balancing of interagency concerns, both of which can make very good environmental cases and many of which can argue—in fact, the argument of using more salt water killed marsh and dropped those national statistics on remaining wetlands. And that is unquestionably true—but the point is, is that unquestionably right or wrong in the larger thinking? And I am not prepared to make the judgment; I just feel it can be made more locally.

Because of time, let me press on to the last thing, and that is the third thing I wanted to talk about, which is we have to create—or the second thing—and I would be very much interested in your thoughts also, both now if you wish to respond or at a later time if you wish to supplement that with a statement—there must be some way we can give thought to differentiating with whom we are dealing as well.

Let me give you an example. In the 404 program you mentioned briefly sequencing. Instead of debating the merits of sequencing, let's look at it, one, as it applies to a major corporation that owns lots of stuff and has a lot of resources; two, as it applies to the average citizen of the 7th District of Louisiana whose median family income is \$26,000 a year and who owns one thing that may well be in a delineated wetland.

Please give some thought to how policy impacts on use denial and how the whole sequencing concept has such a divergent and dramatically different impact on the case of the one person, with one site, seeking one thing, and the case of the conglomerate, with many arms reaching everywhere, with vast resources, legal resources, and with the ability to exert their position both at the agency level or, if necessary, in court.

I don't know if you have given that thought, but I would love to hear a response, and I would also like your subsequent response,

if you would indeed wish to, as you proceed with further policy issues, to address it again.

Ms. BROWNER. Well, if I understand the question, we have begun the process, we have signed some MOUs with the Corps and other agencies to start to streamline the permitting process in a recognition of some of the delay and duplications that can occur. I think there are probably other opportunities from an administrative perspective that we can take to try to recognize the differences that you raise.

On the point you made before, I wanted to call the committee's attention to the National Estuary Program, because I think that it will be useful to keep this program in mind during the reauthorization process. There are 21 designated programs right now in the National Estuary Program. This comes as the result of communities and local governments coming together and deciding what makes sense for that specific watershed. Then we seek to provide funds to help them implement an estuary plan. This plan takes into account how people live their lives, the industries in the area, the municipalities, and how they have to function. I really think it is a model that can serve us well in terms of determining the process by which you achieve effective and efficient local involvement in the decision-making.

The other one I would call attention to is the Great Lakes water quality initiative. That was the result of over 100 public meetings. Now, some will say we took too long, we didn't meet our statutory deadline, but what is absolutely important about that initiative is that it is the result of what people who live there and who will live there and whose children will live there believed it would take to give them the quality of life, the jobs, the recreational opportunities and the clean water that they wanted. As we go through the reauthorization process, I think we really need to focus not only on watersheds but also on this local participation.

The fascinating thing about local participation is they will generally make much tougher decisions than we will make. Because once they come to understand the system and what the system needs and they are invested in this system, they will make those tough decisions.

Mr. HAYES. I think it would probably go both ways. Some would be tougher and some would be different, but all of them would be faster, that I am certain of, because of their own experience with local conditions and aided by the technology and science that I think EPA has the capacity and with other agencies has the capacity to deliver.

I got amused listening to Norm about the watershed as a whole. I got to thinking what I would do, one, if I was the Governor of Maryland, because I would like to include all of Pennsylvania, three-quarters of New York in the Chesapeake watershed and tell them to be sure to get their permits through Baltimore. These are the kind of problems that you are going to face, because I guarantee that is the definition of a watershed.

If I were mayor of New Orleans, I would say, Ms. Browner, we need about four zillion dollars to make up what has come down the Mississippi River since that count began on the Discovery of America. That is going to be a tough position in which you have got

yourself by volunteering for this. They should put you in the cabinet. You will have as many wars as the Department of Defense ever dreamed of on this.

Ironically, it will not fall in a predetermined mode of environment versus business, it will fall on jurisdiction and turf, and who permits what and how and where and its impact, because of the same thing he is talking about in copper. You are elevating the ability to trace source in a way that you are not—by you, I don't mean you personally; we, government—is not yet ready to deal with the political and structural and legislative consequences of that ability.

It will be a very interesting time in which you serve, and I guarantee you have a seat at the table finally.

Last question I want to deal with is on the integrity of policy, and once again this is not a personal statement, but agencies have got to do two things, all of them. And yours is the lead agency in this area. One is the integrity of science that is offered. It has to have public faith in it and be based upon what are perceived as coordinating the local conditions.

The one thing I would also ask you to consider and address is a means of making the science more independent and the inter-relationship of grants and predetermined outcomes, that are quite often mandated by who gets the grant to do the study, because they already know what conclusion you had better reach. If that is only an opinion, I guarantee you it is one shared by many people, from their perspective, of the manner in which we have a virtually in-house and brother-in-law relationship of scientists, grants and agencies.

There has to be a better way if clearly science is going to be viewed as above and below arguments over policy A and policy B.

And second, we need to give you and Interior, and I suppose Interior more than you in this instance, but we need to have a program by which future acquisitions don't go down a political chain but have more environmental input and more national consequences of their acquisition on behalf of the United States. We need to do that in a way that does not involve people who are also registered lobbyists, who hold the property in interim steps and sell it to the government. That is an integrity that I also question. None of which is your fault, but it is an awfully good area to pursue in science and in the chain of acquisition.

Finally, when they are called public properties, and I watched every minute of the summit on television, and I wondered as the ton of questions went by and they showed the whole idea and concept of a Northwestern forest, but there is individually owned lands in between. And the difference between public and private struck me as dramatic.

For one thing, the public is not willing to have the same consequences apply to a private owner, when we tell them what they cannot do, as they are on public lands that they feel they own. They are more than willing to say we are going to have consequences, because the consequences are borne by all of us in our collective ownership as taxpayers. But to target, when you have a small landowner in between and you tell them they just happen to

have owned it in the wrong place, that is something we should address.

And, finally, and this is where I am leading up to the question, I think we should treat public and private lands in the same manner in which we do permitting. I think they should have to deal with every agency, every day, at every level of review, and incur every other consequence instead of a streamlined process that we have for public properties. And in that manner, it will give them more than ample opportunity to see many of the things that are complained about and will not allow them to shortcut a system that is imposed upon every private landowner.

And I want to know, as my final question, your opinion on having public and private lands subject to precisely the same regulatory permitting requirements.

Ms. BROWNER. There are instances that public and private lands are subject to the same process, although I would not say that this is true in all instances. But as we all well know, there are times when EPA suggests that a particular activity go forward based on our environmental review that we do not find there to be adverse consequences, and then another agency feels differently and vice versa.

I think the solution is not to subject everybody to the same system, because we have recognized that the system needs to function better. The solution is to fix the system and to fix it for everybody so that it is an integrated approach and that people don't, whether they be the private or the public sector, feel jerked back and forth within the system.

Mr. HAYES. Well, thank you very much for your testimony and responses, and I very much appreciate your appearance here and look forward to working with you from my subcommittee as well especially on technology transfer. Thank you.

Mr. APPELATE. Thank you, Mr. Hayes.

I will say this; that I did allow Mr. Hayes some leniency in the time because he has pretty much contained himself over the past few subcommittee hearings, and he has had a very specific interest in the subject, but I would like to ask the committee to try to stay within the five-minute limit.

Mr. Horn.

Mr. HORN. Thank you, Mr. Chairman. You perhaps have heard of Miles Law, after Rufus Miles, the great Assistant Secretary of Administration in HEW, who said where you stand depends on where you sit, and in October 1991 you testified before the subcommittee on wetlands protection, in your role as Secretary of Environmental Regulation for Florida.

You raised some very serious questions at that time about wetlands classification and ranking schemes and wetlands creation projects. I am just curious what your current views are and if they have changed at all from your views expressed to the subcommittee less than, well, a little over a year ago?

Ms. BROWNER. I continue to have significant concerns about wetland creation. I think that we are ultimately better served through restoration and improvements in previously impacted wetlands than by creating wetlands. Where we—I think what I said to the Committee a year ago, or a year and a half ago, was, it is very hard

and very expensive to do that which nature does naturally and wouldn't that money be better spent and the rewards more readily available if we were to restore where water had once been, restored the flow.

In my experience in Florida, we have had some tremendous successes. And, quite frankly, we sort of changed the whole argument regarding wetlands protection as we moved away from creation to restoration, mitigation banks, and a number of other things that really just made a lot more sense.

In terms of the ranking issue, as I remember my testimony of a year and a half ago, I think I was speaking to a specific, a particular scheme that had been put forth. The general notion of ranking is not inherently problematic; however, I am concerned with the schemes I have seen thus far. I may not have seen all of them, but it seems that the effect is to not encourage avoidance and minimization, which I think is appropriate as a first step, but rather to sort of say here are the areas that can be impacted and here are the areas that cannot be impacted.

Again, we have to be looking at the systems as a whole, at the quality of the systems and protecting systems.

Mr. HORN. On that very important point of the holistic view, obviously, a lot of the polluters are small farmers, and this has sort of been touched on, and the question is when you have all these various sources of pollution, small farmers, the difficulty of compliance, the reluctance of society to regulate smaller farmers who are sort of the economic production unit of many communities in this country, what sort of carrots and sticks do you conceive of that might be different from what is going on now to secure compliance or encourage compliance in this area?

Ms. BROWNER. Well, I do believe there are tremendous strides that we can make in working cooperatively with farmers in looking at how they farm and in working with the Soil Conservation Service and other services that are available to farmers to develop solutions that work for them and work for water quality protection.

I think farmers absolutely understand that water quantity and water quality are interrelated. They see the consequences of decreases in water quantity perhaps before anybody else, and I think there are many who are eager to work in a cooperative manner. In terms of dealing with the agricultural runoff issues, we are suggesting that we structure a framework that will allow for cooperation.

We also, obviously, need to work very closely with the Department of Agriculture. I think they can bring a tremendous amount of assistance to that effort, and it is important to focus on those areas where the greatest problem exists and then to begin our work solving the greatest problems.

Mr. HORN. Thank you.

Mr. APPLGATE. Thank you very much, Mr. Horn. Chairman Rahall.

Mr. RAHALL. Thank you, Mr. Chairman.

Administrator Browner, I appreciate very much your testimony today. I wanted to follow up on the issue of the State revolving funds and the assistance to small communities so very well brought

out by Chairman Applegate and Ranking Minority Member Boehlert a little while ago.

Training and technical assistance to these small areas are just as important as any amount of money we provide, as you know. In regard to the funding and in regard to SRF mechanisms, I have introduced H.R. 1544, which I certainly want to work with you on, but the technical and the training programs are essential as well if the rural communities are to be able to comply with Federal mandates. I have written to you in this regard.

In providing rural technical assistance services, following up and continuing those services that are provided by the National Rural Community Assistance Network and the National Rural Water Association, and given the critical importance of this type of assistance to rural areas, what steps do you think we should take to ensure these programs continue to be an integral part of the EPA's outreach and mobilization efforts?

Ms. BROWNER. We absolutely agree with you as to the importance of providing this sort of training and technical assistance. Our budget does include about a half million dollars for these sorts of activities to work with groups that work with these communities.

To be honest with you, I think, these groups had hoped for more. There were difficult decisions to be made in the budget. We had funded the groups previously and so I thought it was important to provide some continuing funding. They may wish to look to some sort of fees program to help provide them with additional funds in the future from some of their members.

But it is absolutely essential that we do increase the capacity, if you will, of those in the rural communities in terms of their ability to do the job.

Mr. RAHALL. Many States, such as my own in West Virginia, provide these type of services through other agencies. Do you think that should be the main role or should nonprofit organizations provide the most assistance or a combination of both? What do you think is the proper delivery mechanism?

Ms. BROWNER. Well, I think States and regional State entities, governmental entities, are a good tool. They are not necessarily available in all States in the way that perhaps your State has structured it, and so it is potentially important to look to other sources.

Obviously, if there were enough money and enough full time EPA employees, we would welcome the opportunity to do it. That is not something that is available to us, so we need to look to other groups.

Now, the two groups that would be eligible for the funds or that have historically been eligible for the funds in our budget can also look to the States in terms of some funding, and they may want to do that.

Mr. RAHALL. Thank you very much, Administrator Browner, and thank you for the leadership you are bringing to the EPA.

Ms. BROWNER. Thank you.

Mr. RAHALL. Thank you, Mr. Chairman.

Mr. APPEGATE. Thank you, Chairman. Mr. Quinn.

Mr. QUINN. Thank you, Mr. Chairman and welcome, Ms. Browner, this morning. I appreciate your testimony.

I am one of the freshmen Members in the Congress, one of those 110 renegades that the public sent up here last November and am terribly excited about our activities on this committee and wish that very soon you will join us as a freshman Secretary and work with us to get some projects done. I pledge you that help and support.

Four months ago, though, before I came to the Congress I was a town supervisor in upstate New York, near Buffalo, New York; a town of about 50,000 people. Our discussion on local importance today rings true to form for me. I have been on the receiving end as a town government executive in western New York of Federal grants and projects.

Without repeating all of the testimony you heard from the committee in your direction this morning, I want to underscore my feelings for the important aspect of involving the local community and pledge any modest support to you, Chairman Applegate, and to Mr. Boehlert which I can bring to this subcommittee in that regard.

One of your comments earlier, though, strikes me, and I wanted to mention it to you, and that is the whole business of accountability. Because your concern as an administrator, as the secretary, will be that you cannot have 200 or 300 agencies out there running around making important decisions without some kind of accountability, whether it is the 50 States or the 200 or 300 that you mentioned. We are all accountable up here in the Congress to 600,000 people in a congressional district.

I just wanted to remind you, and we need to remind ourselves, that in most cases when we are talking about these local projects in towns of my size, even smaller villages and small cities around the country, those local elected officials are accountable to their residents and to the people that they represent. As you have already said this morning, in many cases those folks will come up with tougher standards, make tougher decisions, and we need to be reminded that in many cases, these projects, these issues, have been discussed for months and sometimes years at the local level.

Speaking as a former local official, I can tell that you are not removed from your constituents in Albany, New York, home of our State legislature, or in Washington, D.C. Local officials are with their residents every day. I see them at my son's baseball games, at the shopping markets, at church on Sunday, and you know full well those folks are holding you accountable each and every day.

So some of our concern resolving accountability needs, I think, to rest with those local officials. That is important to me. I hope from what you have said that is important to you.

And then just briefly on the wetlands issue, if I may. Have you any sense, as you manage the department, as to how we might streamline this process? I think Chairman Mineta mentioned this morning. Any suggestions how we might help you on that up here in the Congress or on this committee?

Ms. BROWNER. Well, we will be back to the Congress on that specific issue. As you may be aware, there is a study that has been commenced by the National Academy of Sciences; this goes back a little to the point that Mr. Hayes made about the need for the integrity of science. I think the Congress determined that the best

way to deal with the delineation issue in terms of wetlands was to use this body, which is highly esteemed. So we will be looking to that and then to administrative actions.

As I said, we have already entered into some MOUs with our sister Federal agencies. We need to continue to work together through this process to determine what makes sense and to give us the tools that we need to give people a timely answer and an answer that protects the environment and protects water quality.

I appreciate your comments as it relates to local government. One thing occurs to me that we have not really talked about too much today; we also need to educate the public so that they can be full participants in these discussions. I think that we should think about opportunities in the reauthorization process to talk to the public so that they are informed on both the cost and the value of clean water.

I think I made reference to this in my statement. Many in the public think clean water is just sort of there; that you turn on your faucet and it is there. And it is not just there. It is the product of an awful lot of investment and hard work and tough decisions. The public needs to know that so they can be more effective participants in these decisions.

Mr. QUINN. I agree. I think our role in the Federal Government is to assist, whether it is the State or local governments, in some of the technical information.

You mentioned earlier today we need to have meaningful participation in the decision-making process. For many of us in local government, that meaningful participation was affixing stamps to the application that went to Washington and then hope and pray we would hear from them before we were out of office. I am hoping I can help you do that. I think we all want to do that.

Thanks. Those are good comments. I appreciate them.

Ms. BROWNER. Thank you.

Mr. APPLIGATE. Thank you, Mr. Quinn. Mr. Parker.

Mr. PARKER. Thank you, Mr. Chairman.

Welcome to the committee. I have a general question concerning your agency's handling of matters under the Uniform Relocation Assistance and Real Property Acquisition Act.

You were just talking about accountability. Now, I have people that are saying that they accept responsibility for it, but I don't have people having enough courage to do something about it. Let me give you an example.

This case may be one of the most egregious cases we have in the country but there are others out there like it. It started back whenever Gerald Ford was President of the United States, back in 1975. I have a constituent in my district by the name of Gus Saunders. This case deals with the EPA and FEMA. It deals with their expansion and correction of lines on his property.

He was never given his rights under URA as this project continued off and on until the early 1980s. As a matter of fact, he was told by your regional office in Atlanta that it was EPA's policy to ignore citizens' complaints under URA.

What happened was that EPA and FEMA destroyed his personal property—now, this has been admitted by EPA and FEMA—and they built sewage lines off of his easements that he had granted.

For 15 years or more, Gus Saunders has been trying to be made whole but no one has listened. Over \$200,000 of personal property was destroyed in the late 1970s but your agency now wants to settle his claim for just that. No interest and no payment for damage to real property.

Now, I brought this matter to the attention of your predecessor, Mr. Riley, when he appeared before this committee over two years ago. By letter dated April the 5th of 1993, I brought this matter to your attention and I know you just got there. One of the problems with taking over an agency is you inherit all of this. After four years of trying to assist my constituents, it seems we are no closer to a solution.

Now, if the Chairman would permit, I would like for you to detail to this committee within 15 days the reasons why the Saunders case has not been resolved and I would also like to know what you plan on doing about it.

In addition, I would also like to know your thoughts on why any citizens' complaint is ignored and whether a case of this type will be allowed to continue or how it is going to be resolved in the future, because this is one of the problems that we have as Federal officials. Our agencies go out and they think they have total immunity and they destroy private property and the individual rights in this country, of just an individual, small individual, when the power of the government comes upon this person, they get no response.

And it is always because career people and political appointees are trying to protect themselves. They say, yeah, we did you wrong, we hurt you, we destroyed your property, but we are not going to do anything about it because we are going to pass the buck to somebody else.

Would you comment on that?

Ms. BROWNER. Well, I have no problem with making hard decisions and I don't seek to pass the buck. I am somewhat familiar with this case although clearly not at the level you are. It is something that the Agency does take seriously. It is why we have come forward now with an effort to solve the case with an offer. It may not be acceptable to Mr. Saunders, but as I understand from talking to the EPA people involved, we are at least now talking. Mr. Saunders and the EPA for the first time are actually sitting at the table.

Mr. PARKER. Mr. Saunders has been wanting to talk for years.

Ms. BROWNER. Well, I can't speak for what happened in the Agency prior to January 22; I can tell you since January 22 we are talking, and, hopefully, we can resolve this in a way that is acceptable to Mr. Saunders, and if it is the Chairman and the committee's will, we are more than happy to provide an explanation of the case to the committee and to you.

Mr. PARKER. Let me mention one other thing and then I will stop.

I was actually, it was by inference more than anything else, that officials from your agency tried to tell me that my constituent was not Gus Saunders; that I had a larger constituency, which was the city of Jackson. So they tried to put me in a position that politically

it would be much wiser to satisfy the people of Jackson and go against the individual rights of Gus Saunders.

I cannot tell you how mad that made me. My response to them was in the next election, if I get one vote from Gus Saunders and everybody else votes against me, that will make me happy, because that type of attitude will not work and that is what has caused so many problems in this country already with this situation.

I look forward to your response. Thank you.

Mr. APLEGATE. Thank you, Mr. Parker.

Mr. Gilchrest.

Mr. GILCHREST. Thank you, Mr. Chairman.

Ms. Browner, I know there are problems all over the country similar to what we just heard. I would say, however, and I know there are some overzealous and underzealous bureaucrats, which we always run into. I would say at the risk of not being correct that the ultimate responsibility for these regulations lies not with yourself or the bureaucrats but with us and we need to wade in waist deep into whatever it help resolve these problems.

I have a question that I hope was not raised while I was gone. I had another committee hearing. In regards to watershed management, specifically geared toward wetlands. Wetlands is very controversial from salt water intrusion in Louisiana to prairie potholes in Iowa to saving the Chesapeake Bay through its filtration system on the Eastern Shore of Maryland.

This is an enormously complicated effort that we are undertaking here to propose an idea of no net loss of wetlands. The previous President made that statement. I think it has been made again, although I am not absolutely certain. I have a twofold question dealing with no net loss of wetlands.

Number one, first of all, I would like to see no net loss of wetlands, but that is my own personal opinion. I like wetlands and open space and things like that. But practically speaking, is it possible to have a policy where there is no net loss of wetlands, given the enormous diversity and, dare I say, economic needs of certain, of all the areas of the country?

I want to be a little—I want to give an example of watershed management in all its complexity, the idea and philosophy that I think we ought to push of no net loss of wetlands, but just give a simple example of where it might not be totally practical.

In my district, there are a number of communities where there are areas zoned industrial and commercial. In this one particular incident, you have an industrial area of a small town where they have built numerous factories, warehouses, you name it. In one lot, between two buildings—and it is a lot, about 150 feet wide by 200 feet long, that is surrounded by factories—it has been delineated as a wetland. So, therefore, another expansion to a factory cannot go in.

Given the 1987 manual now—I agreed with the 1989 manual—but if we are to look at flexibility and the idea of watershed management, can there be, with the reauthorization of the Clean Water Act, section 404, some flexibility with an area that is specifically considered a wetland under those circumstances?

Ms. BROWNER. Under the existing law, there is the ability to take into account some of the matters that you raise. The issue of no

net loss is a complicated one, because in the implementation of no net loss, I don't think we have achieved what those words meant when they were originally said.

There have been acres of wetlands destroyed and in its place "no net loss" wetlands created. Now, those created wetlands are not functioning as part of a system. They are not providing us with the quality of biodiversity or of water that the area impacted was providing. I consequently am not sure that no net loss is really giving us the quality that is absolutely essential to the future.

Mr. GILCREST. I agree with that, and you are referring to mitigation, I suppose.

Ms. BROWNER. Yes.

Mr. GILCREST. Mitigating an area someplace else, and that is where I guess—and I know it is probably a little more difficult to take wetlands into a watershed concept as we do other things.

Ms. BROWNER. I don't think so. It is something I think we have to strive to do, because the wetlands are part of a larger system. They may not appear so to the naked eye but they inevitably are, for example, the ground water connections, the sheet flows, et cetera, and I would think that it would be important, as we begin down the path of using watersheds as the way of thinking about what we do, that we absolutely incorporate wetlands into that discussion. They are part of the watershed. And for the watersheds to be successful, for them to be healthy and beneficial, the wetlands have to be.

Mr. GILCREST. Is there, then, any plan to develop—there is a great deal of discussion about watershed management for drinking water, for wastewater, for point pollution and nonpoint pollution and things like that. Is there a plan under way to begin to map out the wetlands and their connectiveness as far as the watershed is concerned so that communities in their comprehensive planning can focus on that?

Ms. BROWNER. Yes, there is some work under way. There is some work being done at the State level. We also have our EMAP program that attempts to look in at water chips the way that you suggest. Obviously, we have not covered the entire country. That will be a significant undertaking. Although, I might add, NOAA and EPA are working with the Department of Interior as they put together their biological mapping survey to make sure that all of the various mapping activities that are going on will be integrated so that that kind of information will be available.

We also have the advanced identification program with States and the regions to go out and actually locate and identify the functioning wetlands systems.

Mr. GILCREST. I think a lot of trouble would be diverted if communities had this information to project planning for the future. And there will be, I suppose, and I understand the idea that mitigation does not always work because it is not in the right area, it is pretty tough to develop a wetland, but if communities had the information and they were able to share that with developers, homeowners, and realtors especially and things like that, the planning would go a little smoother, and the thrust of the community to be behind this program would, I think would be greatly increased.

Thank you.

Ms. BROWNER. I just might say planning and land use planning, obviously, can do an awful lot to address the problems that we have been left to address in a regulatory manner. I think we all recognize that just protecting a particular wetland does not really get us the quality of function. You have to protect the buffer, and there is an interaction between a wetland and an upland that is important to protect.

So land use planning, where you take a comprehensive look on the front end rather than on a piecemeal basis, will be very, very helpful in terms of dealing with a lot of these problems, and quite frankly, preventing a lot of these problems from occurring.

Mr. GILCREST. Thank you very much.

Ms. BROWNER. Thank you.

Mr. GILCREST. Thank you, Mr. Chairman.

Mr. APPEGATE. Thank you, Mr. Gilcrest. Ms. Norton.

Ms. NORTON. Thank you, Mr. Chairman.

Ms. Browner, I was delighted with the part of your testimony that focused on watershed management, ecosystem management, and I want to associate myself with Chairman Mineta's remarks, because I think they illustrate what happens when there is not a comprehensive watershed management waste effort, not to mention money, can be quite significant.

I think that my colleague, Mr. Hayes, may have a point about turf when he is talking about an area that is so large that it runs through half the States of the Union. But if I might say so, in this region, there has been enormous cooperation and no turf battles, for example, in the case of the Anacostia River.

And I want to ask a question about a watershed approach to urban rivers. I am working on a piece of legislation that I hope will become a part of the Clean Water Act that effectively would establish an urban watershed provision, and I am modeling it on what you indeed describe in your own testimony as the nationally significant estuaries program section 320.

Part of my own initial interest comes from the fact that I have a very great interest in the Anacostia River, we saw what the Federal Government did with the Potomac River, the river that runs through the neighborhoods the Anacostia didn't get quite the same treatment. It doesn't have as many tourists visiting the neighborhoods, but while my interest originates with the Anacostia, these working rivers, these rivers that built America, are experiencing, across the country, the same neglect.

The Anacostia has the dubious distinction of having been named a couple of weeks ago by American Rivers as the most endangered urban river in the United States. But there is the Detroit River, the Los Angeles River, the Chicago River, the Platte River in Denver, and the Hudson River in New York. I mean these working rivers are household names in our country. They are in plain view and they are very plainly ignored.

I wonder if you believe that the nationally significant estuaries model could be adapted so that we could name nationally significant urban watersheds and proceed with a methodology not unlike that, that you are using with the estuaries?

Ms. BROWNER. I think it is a very intriguing proposal. As I said previously, I believe that the estuary model, in terms of participation in the development of solutions, is one that has worked and one that I am interested in seeing expanded. I think you make a very interesting proposal in terms of taking that process and expanding it to our urban rivers.

You are exactly right; the urban rivers are at some risk and we need to do better by those rivers and for the people who live near those rivers so that they can enjoy those rivers. Many of our urban rivers historically offered tremendous recreational opportunities for the people who lived nearby, and that has ceased to be true in far too many instances. We should definitely give those rivers back to the people in those communities.

Ms. NORTON. I note that in your testimony, Ms. Browner, you indicate—in the examples you give, which are themselves very interesting—that they are not complete, they don't have a complete watershed approach because you don't yet have that approach. And that some have the resources without the authority, some seem to have the authority without the resources.

I would like to ask you, what effect you think an urban watershed approach would have on existing resources? Would it require additional resources and what effect it would have on existing efforts, such as nonpoint source pollution efforts, that are already under way and other efforts in a rather unconnected fashion around these watersheds?

Ms. BROWNER. As to additional resources, I think there is a lot we can do within existing resources and by bringing together a variety of activities and focusing around a particular urban river.

If this is okay with you, we would like to take a look at your proposal and then provide a more detailed writing in answer to the Subcommittee. We should be able to do a lot within existing resources. Whether we can do everything that you would hope for is something we should probably take a closer look at and get back with you.

Ms. NORTON. I would be glad to share the proposal with you as it develops. I am now working with Committee staff and my own staff and appreciate your response. And thank you, Mr. Chairman.

Ms. BROWNER. Thank you.

Mr. APPLEGATE. Thank you, Ms. Norton. Ms. Shepherd.

Ms. SHEPHERD. Thank you very much, Mr. Chairman, and welcome, and I am very pleased to see you here.

I am from the State of Utah. We have sort of constant preoccupation with water in Utah, as you can well imagine, and Salt Lake County, which is the district I represent, is in a high mountain valley below a watershed of mountains that we have garnered with our lives for years.

I am very interested in watersheds. I am very interested in the notion that we are moving from treating water we have already ruined to protecting water that we have yet to use, and I just would like you to expand in some detail on what your plans are for watershed management policies, and what you imagine will be the hurdles in overcoming all these different jurisdictions and permitting areas and all that sort of thing as you go through doing that, be-

cause that will become our problem very quickly, is to try to help you do that.

Ms. BROWNER. The Clean Water Act is somewhat unique among environmental statutes in the great flexibility it already provides. I think that most people who work with the array of environmental statutes would agree that the Clean Water Act gives greater flexibility.

We hope that in the process of reauthorization we incorporate the concept of watershed protection in all that we seek to do, that we make watershed protection sort of the cornerstone of how we do the job that we have to do, and that we make sure that we don't inadvertently put in place barriers where ones have not previously existed. We would just seek to work with the Committee and the Committee staff on this as actual legislation is developed.

Ms. SHEPHERD. How do you visualize coordinating this effort with the biological survey that Secretary Babbitt is doing in Interior; because there we are talking about ecological systems in terms of animal life and here we are talking about ecological systems in terms of water. And obviously they overlap in many, many ways. Are you going to go forward sort of on the same time schedule?

Ms. BROWNER. Well, we have an existing program, a mapping program within the agency called EMAP, which stands for ecological monitoring and assessment program. It has been ongoing for I think four or five years. It is of great importance to us. It is focused on the ecological resources, as you mentioned, but we are now in the process of making sure that the work that we do will be fully integrated with the work of Interior and NOAA and that we will not overlap each other, but rather we will complement each other.

In additional, we have an interagency working group who has the responsibility for assuring that and for coming forward with proposals. It may be something for which that legislative language would be appropriate. We don't know at this point in time.

Ms. SHEPHERD. Is this the first time that has happened in this particular group?

Ms. BROWNER. I think in this Administration there is probably a greater importance placed on interagency coordination. The example is set at the top. I have wondered why. If this is the case; I will tell you what my answer is, though it may not be right: this cabinet is made up of more people from State and local government than any cabinet, I think, in the history of government, but certainly in recent memory.

If you come out of State and local government, and those of you who have been there know this, you have to work with your colleagues. It is how you get things done. Consequently, we are very comfortable working across agency lines. I think they are setting the example at the top and bringing people together, quite frankly, in a way that perhaps they have not come together.

I think EPA and Interior have a history on specific issues of working well together, but there are other issues we have not worked as well together on, and we need to do a better job. But I honestly believe the only way we can meet the public's expectations, in terms of environmental protection and quality of life, is by working with Interior, NOAA and other agencies.

Ms. SHEPHERD. Well, I certainly support you on that and compliment you on that, because as I try to track down all the many, many examples my constituencies give me of where government doesn't work, it almost inevitably comes to the point where one agency told them one thing, another agency told them another thing, and they just feel like they are being tortured to death. So thank you very much.

Ms. BROWNER. Thank you.

Mr. APPLGATE. Thank you, Ms. Shepherd. Mr. Barcia.

Mr. BARCIA. Thank you, Mr. Chairman.

In the interest of the time constraints, I would like to focus my comments on three concerns that I have, Administrator Browner, and I would like to begin also for thanking you for your appearance before the committee today and say I, too, look forward to working with you the next several years as we address the water quality problems.

The 5th congressional district, in which I represent the State of Michigan, encompasses about 600 miles of Lake Huron shoreline as well as many tributaries and including all of the Saginaw Bay. One of the programs that I have recently been involved in is the Saginaw Bay watershed initiative, and I would like to mention that the entire Saginaw Bay lies within my congressional district and EPA has had a water quality demonstration project under way for the past few years on the bay, the watershed initiative.

Can you describe this project for us, your agency's involvement, and whether you plan to continue your support of this rather unique watershed initiative in the country?

Ms. BROWNER. I am not familiar with all the details of the project. If you don't mind, I am going to ask Martha Prothro to speak specifically to the details of the project.

Ms. PROTHRO. Without going into a lot of detail I can say it has been an excellent project. We think it is moving forward. As you know, in Saginaw Bay there are a variety of stresses on the environment, so it has required work from a number of State and local organizations as well as from EPA and other Federal agencies. So we think we are making very good progress there and that environmental results are going to be achieved in the near term.

Even though there is no specific provision for it in the 1994 budget, there are a lot of things in our existing programs that will continue to support the Saginaw Bay effort, and we are committed to seeing that through.

Mr. BARCIA. I appreciate that response.

The second concern goes along with some of the comments echoed by Congressman Hayes, or explained to you by Congressman Hayes, and that would involve my concern about environmental technology and how we might best utilize some of these new emerging technologies in terms of contaminated landfills, specifically the Saginaw River.

We have something called the middle grounds landfill. It is actually a peninsula, almost an island but a peninsula landfill, located in the Saginaw Bay, and has for years been leaking polychlorinated biphenyls into the Saginaw River and the Saginaw Bay.

The community that I come from, my hometown of Bay City is a small town, about 38,000 residents, and the estimated cost on the

cleanup of the landfill and Saginaw River is about \$100 million, exceeding by more than five times our annual municipal budget. And that is with, of course, the standard technology utilized in the past.

Recently EPA sanctioned a demonstration project on the island to neutralize, if you will, polychlorinated biphenyls by a new technology that has been developed in Canada, and it is my understanding that the initial review by EPA staff has been very positive. And I would like to indicate that I have been working with your staff, Administrator Browner, and that I would like to look forward to working with you to expediting the approval process by your agency so that we may begin to look at cleanup efforts of the middle grounds landfill and also at a reasonable cost. Because it is my understanding that the technology is effective at basically neutralizing the polychlorinated biphenyls, molecularly changing them from nine to six degrees or six to nine.

So we think that is effective, but could you comment on whether or not you could work with us to expedite the approval process?

Ms. BROWNER. Absolutely, we would be willing to work with you. I apologize that my understanding is somewhat limited, although I think that your characterization of it as being optimistic and positive is one that we share. We would look forward to working with you so that we can get the site resolved.

Mr. BARCIA. And with the indulgence of the Chair, one final comment.

I want to thank you, Administrator Browner, and your staff for your strong support of our environmental concerns in the State of Michigan, the Great Lakes State. I would like to just share with you, and certainly you are aware that for the past few years EPA has been developing a Great Lakes Research Center in Bay City. Lake Guardian, EPA's research vessel, is stationed in Bay City, and EPA also has a supercomputer, in fact two supercomputers, which I understand are in constant demand.

Various construction projects are in different phases, and I understand that your fiscal 1994 budget request does continue operational funds for the facility. Can you more fully describe funding levels for the project to date, including the various components that I mentioned and explain your budget request for fiscal year 1994?

Ms. BROWNER. I think what happened in the budget is there was a one-time funding for the acquisition of a facility, and that was, obviously, not carried forward because it was not needed. We do continue funding in terms of the operation of that facility, we just don't continue the—here is the problem, I can't remember if it was for acquisition or actual construction, but there was a one-time dollar amount, I think, of maybe—we can get you the specifics on that, but the facility is a very important facility to us.

You are exactly right, the supercomputers are in very, very high demand and we have continued the operational funding.

Mr. BARCIA. There is great anticipation in our community about the location of the facility in Bay City, and I appreciate very much your continued support on that important project.

Thank you, Mr. Chairman.

I also have a prepared statement to submit for the record.

Mr. APPLEGATE. Without objection, so ordered.

[Mr. Barcia's prepared statement follows:]

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Opening Statement  
Honorable James A. Barcia  
Hearing of the Water Resources and Environment Subcommittee  
May 5, 1993

MR. CHAIRMAN, I would again like to thank you for your leadership in addressing this problem of critical concern to the nation. I would also like to thank Administrator Browner for joining us today. I have already been discussing some of the programs that affect my fifth district of Michigan with your staff, and they have been very helpful.

The quality of water in the Great Lakes has been a question of much controversy and concern over the past several years. In my area, the Saginaw River and Bay have presented such problems that they have been given special attention. Two programs, in particular, have been very successful in attacking water quality deficiency.

The Saginaw Bay National Watershed Initiative is one of the ways that water quality problems have been addressed in Bay and Saginaw Counties. This program represents the best of government and private sector cooperation. Unfortunately, I am concerned about the status of this program for my state, and I look forward to working with the Administrator and with the

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Committee to try and rectify this problem. The other is the Great Lakes Soil Erosion and Sedimentation Control Program which is funded through the Great Lakes Commission. It addresses erosion and sedimentation which are among the most serious problems for water quality, not only in our area, but throughout the Great Lakes region.

These two programs are overwhelmingly successful in providing their funding directly to clean-up activities, with the Saginaw Bay Watershed Initiative providing over 75% of its monies directly for clean-up, and 100% of Great Lakes Soil Erosion and Sedimentation program money going to local interests to deal with soil erosion problems.

Finally, as you are aware, the EPA has developed a Great Lakes Research Center in Bay City, Michigan. The Lake Guardian, which is an EPA research vessel, is stationed there, and the center is equipped with a supercomputer that I have been informed is under constant demand. Although the construction is in various phases of completion, I understand that things are moving along quite smoothly on this important program. I want to offer whatever assistance that I might to you in filling this critical need for Great Lakes Research.

Madame Administrator, I look forward to your testimony, and to working with you on these problems. Once again, Mr. Chairman, I thank you for your leadership, and I look forward to working

closely with you on this critical issues for so many of our  
nation's communities.

Mr. APPLEGATE. Thank you, Mr. Barcia. Mr. Menendez.

Mr. MENENDEZ. Thank you, Mr. Chairman.

Madam Administrator, I want to welcome you also on your appearance here today, and as a prefatory remark, I want to say that I realize that you have just come on this job.

It is my experience with your Agency, of course prior to your being there, from a multitude of different facets, as an attorney, a mayor, a State Senator, and now as a Member of the House, that some of the things the department has done are an example of government out of control and with little sensitivity to the consequences of its actions. I want to give you some examples.

As you may know, we represent one of the most active industrial waterways in the Nation along the New York Harbor and the Port Elizabeth and Newark location. The port generates \$20 billion in economic activity annually and supplies 180,000 jobs. There are issues with the port in terms of dredging, which are complicated by the fact that there are traces of dioxin contamination generated by the Passaic River, as well as the New York Bay.

Now, it is part of this process, that has taken more than three years and still has not been resolved. Recently the port's second largest customer moved its deep water port to Canada, and several other users have pulled out of lease negotiations because of hazardous conditions due to lack of dredging. Cargo ships are hitting against the built-up sediment at the bottom of the berths.

Section 115 of the Clean Water Act of 1972 directed the EPA to identify locations of in-place pollutants, with emphasis on toxic pollutants, in harbors and navigable waterways. It also authorized the EPA to contract through the Corps the removal and disposal of such materials. Now, it seems to me that this section of the law is all that was needed to stop—and I listened with great interest in your presentation—the source of the pollution which created the contamination, there by creating the dredging issue, and in turn stifling the economic activities of this port. Yet your predecessors did not do this.

Is there sufficient authority given to your agency under this provision to clean up, in this case the dioxin in the Passaic River, or, for that matter, any other part in the Nation that has a similar problem? Is there enough statutory authority? And if there is not, then what do you need to get it done?

Ms. BROWNER. I don't think it is necessarily a question of statutory authority. If I understand the section you are referring to, that section has never been funded. We have not had the monies available to do the job that we need to do.

I think there has been concern that if it were to be funded, the amount of money necessary is quite, quite large.

Mr. MENENDEZ. So, then, we just continue with the source of the contamination unabated.

Ms. BROWNER. Well, if I understand the source you are referring to, is it a Superfund site?

Mr. MENENDEZ. It is now a Superfund site.

Ms. BROWNER. That is my understanding and obviously we will be working to address that under the Superfund law.

Mr. MENENDEZ. Does your budget request have any funding for section 115?

Ms. PROTHRO. Not for section 115. However, we are moving more in the direction, to funding efforts to address contaminated sediments, particularly in our technology development and in our criteria and standards program.

We also have recent requirements from the WRDA bill, the Water Resources Development Act, to develop an inventory of contaminated sediments, and we do have a request in our 1994 budget to help fund the development of that inventory.

Ms. BROWNER. We agree, I think, with the basic point that you are making, which is we need to consider better ways to address sediments. We don't disagree with that.

Mr. MENENDEZ. Let me ask you another question. The specific site in question, my understanding is that the cleanup standard is in the parts per billion, yet I also understand, and correct me if I am wrong, that the testing of the sediments to be dredged for ocean disposal and other disposal alternatives in the parts per trillion, a standard that is a thousand times more rigorous.

Ms. BROWNER. I am not familiar with the cleanup standard. It is the Shamrock site?

Mr. MENENDEZ. Yes.

Ms. BROWNER. I apologize for not being familiar with the cleanup site. We can look at that and get back to you.

Mr. MENENDEZ. I raise the question because if that is the case, let's assume for argument sake that it is, then even when we clean up the land, this could continue to be a source of contamination because we have two different standards that would pollute the waterways. Therefore, the issue of dredging, which needs to be done annually, would remain unresolved. Why is there a standard for one contaminant that is different for the land than the water? How do we resolve the differences so that the source ends up being abated once and for all, otherwise, we have not done our job?

Ms. BROWNER. Well, there are certain toxins and pollutants where it is appropriate to have different standards in terms of water versus soil. It is also very hard to know, without having the specific facts before me, whether this is a particular instance where the effect of cleaning soil to a certain level gives you what you need in terms of water protection. I cannot answer that in the abstract. These things have to be looked at on a very site-specific basis.

The particular material in discussion here is dioxin and one that is I think recognized as being particularly toxic to people who eat fish. We would be more than happy to sit down with you on the specific Shamrock matter. You and I have met previously on the harbor issue, and on March 29 the EPA did concur with the harbor going forward in keeping with certain conditions, and it is now in the hands of other Federal agencies in terms of their decision.

Mr. MENENDEZ. I understand that and I say that when you got involved we had some action, which was we had a lot of inaction before, but still we are in a 3-year permitting process and that seems to me that in that whole process that is an example of government out of control.

I want to quickly bring up one other point. I have various other questions I would like to submit to you on this issue about task forces set up under the Water Pollution Control Act. I have not got a sense or inquired of the department where they are at, I am not

quite sure they are working at all, but they deal with this issue of your having two task forces, one that is supposed to be reporting by October 1993, another by October 1994, and I would like to have an idea of where we are at with that.

My final point. When I was a mayor not too long ago, and dealing with the Clean Water Act, we had a situation where our sewerage was taken care of through one community; the community I was the mayor of did not have facilities. Well, the short part of the story is that we ended up, having inherited plans which that community had submitted. These plans later proved to be insufficient to handle and treat the amount of sewerage as set by the standards of your department and the law.

Since we were under a judicial consent order, we were forced to proceed. After years of litigation, it was reversed so we could use plans that are the most environmentally sound. However, because the time frame was missed—not by a lot of time, but it was missed—the EPA imposed multimillion dollar fines.

When you are trying to reach the long-term goal of taking care of pollutants and complying with the Clean Water Act, and you are being told by the EPA this plan won't meet the standards, then ultimately you have won that issue. But, because of having won that issue you still get fined since you didn't meet the deadline—in terms of time—seems ridiculous because we will meet our goal, which ultimately is to have a facility that completely complies with the Clean Water Act.

This is an example of why people say our government has no sensitivity to the consequences of its actions. The people who are paying are in great shock. Their bonds have kicked in and now we are going to add fines to them simply because we met a condition that was long-term in nature. This is a problem you must review under your stewardship.

Thank you, Mr. Chairman.

Ms. BROWNER. Thank you.

Mr. APPLGATE. Thank you, Mr. Menendez. Mr. Filner.

Mr. FILNER. Thank you, Mr. Chairman.

I appreciate your indulgence to be with us all morning. Believe it or not, there is one subject that has not been covered and that is—and I will be submitting questions in more detail for you—the relationship between coastal cities and wastewater treatment.

Just briefly, as you know, EPA has granted more than \$300 million over the last couple of years to a half dozen coastal cities and the fiscal year 1994 budget did not include funding for all of them but it did include funding, as you acknowledged earlier, for one, and that is the city of Boston.

I was just wondering about the rationale and the intentions for the other coastal cities, which have as great a need certainly as our sister city of Boston, but we cannot figure out why one city was and the rest of the cities—I represent, as you may know, San Diego—why we did not get included in that situation.

Ms. BROWNER. We were faced with some very difficult decisions in our budget, as all agencies were, and as ultimately Congress will be. It would be our hope and intention to work with this committee to see if we could create a fund specifically to address cities such as yours who are experiencing significant rate shock.

You are right, as I said earlier, there is 100 million in this year's budget. We don't pretend that it in any way addresses the concerns that exist in a number of cities. But we recognize that the tremendous need and would like to see if there might be a way to create a specific fund to help those cities who are experiencing rate shock.

Mr. FILNER. That would be very helpful and look forward to working with you.

In the interest of time, just one more policy question. In your own testimony, you talked about how two decades later we are ready to take some very different approaches in the Clean Water Act in terms of the comprehensive outlook, in terms of the total ecosystems for aquatic protection in terms of cost effectiveness.

As you may know, a recent study completed by the National Research Council concluded that those principles ought to be applied perhaps in the coastal areas of the country with regard to wastewater treatment to meet the standards of the Clean Water Act, and that study recommended what was called an integrated coastal management, an ICM, approach to be developed.

It seemed to make an awful lot of sense. It seemed to make an awful lot of congruence between your own statements and your past record in looking at a common sense approach to meeting environmental standards; that we ought to be pursuing this in cities such as San Diego. And I am wondering if that has been started or looked at.

I know you are a freshman, like a lot of us are, and whether we can work with you to do that, because we are interested in meeting the standards of the Clean Water Act but with an approach that is both cost effective and takes into account the specific situations at each coastal city or other State may have.

Ms. BROWNER. We are in the process of reviewing the National Academy study that I think you referred to. If I understand correctly, it does argue for or place focus on the idea of sort of site-specific approaches. What that would mean in any particular site is not really addressed per se in the report, although I guess there were some case studies.

I don't believe that San Diego was, in fact, one of the case studies. I think maybe Boston was.

Mr. FILNER. San Diego was included also.

Ms. BROWNER. As one of the case studies.

Mr. FILNER. In fact, we threw in—

Ms. BROWNER. I know you put in some of the money.

Mr. FILNER. We wanted to be a case study. It is referred to in the study there. They referred to it in the study.

Ms. BROWNER. We thought the study was important, as did your city. We also provided money, I think you are right to draw a connection between what the study says and what we have said here today and, obviously, we would look forward to working with you.

Mr. FILNER. Very good. And on this subject, several issues that came up together I just want to reinforce what the Chairman said in his opening remarks, that the appointment of various officials would obviously move things along a lot quicker.

We appreciate your dedication to solving these problems, working with communities in a very common sense way, and we look forward to doing that over time. Thank you very much.

Ms. BROWNER. Thank you.

Mr. APPLGATE. Thank you very much. Mr. Nadler.

Mr. NADLER. Thank you, Mr. Chairman.

Ms. Browner, I come from the State and city of New York and I have a perspective on some of the problems of large urban areas which have not been too much discussed this morning. I very much agree, by the way, with the approaches. I congratulate you on focusing on geographically targeted watershed, on the need for adequate funding to support State and local solutions, and on water quality problems caused by wet water flows, which are precisely the kinds of problems that we have.

Now, New York has a very large unfunded need for secondary wastewater treatment plants, and New York, like some small rural communities which have been mentioned, but our large urban centers also have very great fiscal problems and it is very difficult for New York to continue participating for ever larger amounts of revolving loan funds.

Is any thought going to be granted—we used to have a grant program, to give grants Federal grants for the construction of wastewater treatment. In the late unlamented Reagan years that was eliminated in favor of State revolving loan funds, which only go so far. Will any thought be given to resuming the use of construction grants for wastewater treatment plants?

Ms. BROWNER. Well, as I mentioned earlier, although obviously, this does not speak to your particular district, the RDA does include an increase of \$900 million for grants to communities of less than 10,000.

We have also recognized that there is a tremendous financial burden being placed on some of our large urban and metropolitan areas, Boston being one, I think New York, San Diego and some others, and that we would hope to be able to work with the committee to see how we might address those specifically and whether a grant program is appropriate. I think that is something we need to discuss.

The point, as you well know, of moving to a revolving fund was to hopefully put the Federal Government in a slightly different position. But we have called for a new and expanded revolving fund because of the recognition of the tremendous needs that still exist. The expanded Fund should help urban areas because of the wet weather issues that are becoming increasingly significant in the urban areas.

In looking at a mechanism to help provide relief to the large metropolitan areas, it would probably be important to look at the rate shock and the ability to pay, in order to establish some formula, I would think, as to how the monies could be made available.

Mr. NADLER. But revolving loan funds, no matter how large and fairly administered, still have to be repaid. We are dealing with some of the large urban areas that are rapidly losing their ability to repay revolving loan funds. I would hope we would get into a large grant program again.

In my view, it was a mistake—revolving loan funds are well and good, assuming there is the ability to repay to start with. When you look at the needs of Clean Water Act and Clean Air Act and mass transit and bridge reconstruction, everything, the capital

budget of New York City is becoming insupportable. So a revolving loan fund, unless you are looking for default down the road, does not help beyond a certain point.

Ms. BROWNER. And, again, we recognize that there are these urban areas that are being put in a particularly difficult situation and that is why we would want to work with the Committee to try to develop a program that addresses their needs.

Mr. NADLER. Thank you.

The second thing I wanted to address is the question of watershed management. Now, New York City will face the need for about \$5 billion or \$6 billion worth of filtration plant construction if the trends continue in our watershed, which has given New York, up to now, one of the best and purest water systems in the country. So we in New York are looking toward increasing the management of our watershed. And toward that end, one of the greatest needs for that is the purchase of additional land in the watershed areas to regulate or stop development which impinge on, which would result in destruction of the watershed areas and of good water.

Mr. Boehlert represents some of the upstate areas and reflected on some of the intrastate tensions between the need for managing watershed and acquiring watershed land in some local communities, which is a separate problem. My question is are you looking toward and do you think we ought to be doing anything to helping States and local governments with funds for purchase of additional watershed area; grant or loan program for aiding in the purchase of watershed land?

In New York and in many other places, if we don't purchase that land pretty soon, it will not be available. It will be developed. And then we are talking, nationwide, tens, maybe hundreds of billions of dollars of filtration plant construction.

Ms. BROWNER. As the discussion has evolved around the drinking water SRF, this is an issue that has been raised. The clean water SRF has not historically permitted land acquisition as one of the costs that are reimbursable, but I think we, all recognize that a little bit of money to prevent something from occurring, to protect an existing pristine or undegraded system, will go a long way towards reducing expenditures in the future. Therefore, we appreciate the discussion that is now taking place on that very issue.

Mr. NADLER. So you think you might end up, as a result of that discussion, recommending grants or loans for land acquisition purchases?

Ms. BROWNER. In the drinking water SRF, that is an issue that has been raised, that is correct.

Mr. NADLER. Let me just urge that that should be resolved with a positive decision because it is extremely crucial and time is not on our side on this one. If we spend a few more years debating the issue it is going to be moot, we will be discussing major grant programs for filtration plants.

Next thing I wanted to ask goes back to the dredging question that Mr. Menendez raised. The dioxin contamination comes from New Jersey but it affects the Port of New York which, of course, is in New Jersey, which is another problem.

When I was just elected to Congress, I hired as my Chief of Staff a gentleman who had been the Northeast regional representative for the Sierra Club in the late 1970s, early 1980s, and was one of the Sierra Club lobbyists here on the Hill in 1980, and at that time they were discussing the problem of that dioxin contamination and the same plant that Mr. Menendez was discussing a few minutes ago, and I forget in detail what was done then about allowing the continuation of the harbor, which, of course, is 180,000 jobs and multibillions of dollars, and everybody pointed out in 1980 a fundamental solution had to be reached because you cannot continue to have a conflict where EPA says you may not dredge and if you don't dredge the whole economy collapses.

It is now 13 years later and nobody has addressed the basic issue at all. So my question is what is EPA doing to find environmentally sound methods of disposal of the silt? Never mind just looking at what Mr. Menendez was talking about, of removing the silt, but where are we going to dispose of the silt so that essential dredging can go forward to maintain our harbors, not just in New York but elsewhere?

Ms. BROWNER. If I could clarify one point. The State of New Jersey did have responsibility in terms of the enforcement lead on the river contamination and we have recently taken that responsibility back to see if we can move the matter forward.

Mr. NADLER. Can I comment or ask you a question right on that point? Because that is exactly the point. We find in New York and in New Jersey, and I don't speak for the Governor of New Jersey or the Governor or the mayor of New York City, but the States and cities have been irresponsible in this. That is, obviously, true. And how do we get around the situation where you allow a State or a city to go forward for 10 or 12 years to do nothing?

The State of New Jersey had the responsibility. They apparently ignored that responsibility for a decade or so; New York ignored its responsibility for a decade or so and now EPA says—now you are up against a deadline or we are going to close the harbor and the State says you cannot do that, it will have catastrophic economic implications and EPA backs off and the whole thing starts over again.

We have to have a situation where EPA enforces them doing something in time so you don't have a choice between backing down on the environmental enforcement or having economically catastrophic effects. They did that 12 years ago and it is happening again now in the same exact place.

Ms. BROWNER. You are saying that the State is not acting?

Mr. NADLER. Twelve or 13 years ago, essentially a decision was made to permit the harbor, they would permit dredging to continue or to be done then—it has to be done periodically, of course, in order not to shut down the harbor with its economically catastrophic effects and the State would then have the responsibility for addressing the pollution.

Here it is 13 years later, the State has not addressed the pollution, the dredging permit again has to be issued, lest there be catastrophic impacts—and I am not saying they should not do that—and now EPA is going to look allegedly at the basic environmental

pollution problem, and I want to know what kind of guarantee do we have 10 years hence we won't be talking about the same thing?

Ms. BROWNER. As it relates to disposal of dredge materials, I don't think there is any disagreement but that we have to get out in front of this issue; that we have to develop a treatment technology that will allow for disposal to take place in a more expeditious manner without restrictions that are extremely burdensome. We also need to make sure we involve the public in this process.

We would hope to be able to work with the various ports around the country in a more amicable manner so that we don't constantly find these things coming down the wire and decisions having to be made in the immediate context of jobs being lost. That is a position no one wants to find themselves in. Rather that we should put in place a process that will develop a system whereby these sorts of dredging, which is maintenance dredging, in part, can go forward.

In terms of the situation with New Jersey, as I understand it, New Jersey made a decision to proceed with the land contamination prior to the river contamination based on their assessment of the health effects 12 years ago. And one of the complications of the work that we do is that new information becomes available to us, information that we cannot always predict, and we have to make adjustments in the decision.

I think everyone involved in this situation recognizes the importance of dealing with the source, that that has got to be a priority; that we have to go into that facility, that Superfund site, and deal with the source. That will not do everything but that will alleviate some of the problems and then we have to have a system for dealing with the disposal in a way that is safe and environmentally sound.

Mr. NADLER. Well, I agree with that, obviously. What you said is we have to work with the State so we don't come up against this.

What I am suggesting is EPA should develop some sort of method of dealing with the State that would rather put off the problem until you are right up against the economic thing. This should have been dealt with five or six years ago when there was not an immediate crisis and not now.

Let me turn to one other subject, the last subject, dealing directly with my district in Manhattan. My district is Brooklyn and Manhattan and has the entire waterfront there basically.

The North River Pollution Plant, in Harlem and Representative Rangel's district, is a major problem, as you know, I assume you know, because somebody made some mistake in building a multibillion dollar facility and it puts out a lot of vapors that smell awfully, like sulfur dioxide, and people who know what that smells like can imagine. Harlem has been complaining about this for a long time.

Second, it is already over capacity. That major pollution every time we build something new in Manhattan or at least on the west side of Manhattan it will increase direct sewage outflow untreated into the Hudson River because we are over capacity on the North River Pollution Plant.

Now, the city EPA will not admit it is over capacity, but I think in court it will come out that it is but everybody agrees it is close to capacity. And yet New York City is planning to allow a new de-

velopment with 6,000 apartments in one place and nearby another few thousand and there is breakneck development going on of new residences, tens of thousands of units, all of which feed directly into the North River Pollution Plant. There is no additional plant capacity being built, and the city and the State are pretending that somehow this is not going to lead to direct pollution into the Hudson. Obviously, it is.

My question is what can EPA do or do you think we should be doing or do you think the Clean Water Act should be amended in some fashion to deal with the situation where development is going on in a way that is guaranteed to produce untreated effluents into a sensible, sensitive, I should say, aquatic aquifer system, like the Hudson, way beyond the capacity to deal with it?

Nobody is making plans to deal with increased capacity and nobody is making plans to somehow deal with the development. What can be done there?

Ms. BROWNER. Well, I am not as familiar with this obviously as you are. We are aware of the problem as I understand it in terms of the odors you made reference to. There was a technology that may not have worked as originally anticipated and so there are going to have to be modifications to the system. It was, I think, an effort to develop a new way of doing things and it didn't work. Or didn't work the way everyone hoped.

In terms of the other issue, which is capacity, at least in my experience and from the a State perspective, States generally have the authority to intervene in those particular instances.

Mr. NADLER. My question is really what happens when the State obviously is acting in such a manner as to be unwilling to exercise its authority and leading to, obviously a few years down the road, gross violations of the law? Do you wait for the violations of the law to occur or do you stop it in advance?

Ms. BROWNER. You raise a valid point. I was saying to Martha that the obvious tool is the water quality standard violation, but by the time we exercise that tool the problem has occurred, the development has occurred. And I have to apologize for not being aware of what other tools might be available to us to avoid the situation in the first instance.

Mr. NADLER. Let me just suggest that I am not aware of any tools at this point, and I hope in the future in some discussions we can develop some tools in the reauthorization of the Clean Water Act to deal with that. Because I will say right here on the record it is obvious to a lot of environmentally concerned people in New York that the State and city of New York have no interest in enforcing that law if it retards certain kinds of politically favored development in any way.

They are making no effort to develop further treatment in certain areas and they are making no effort to limit certain development in those areas and this is absolutely predictable, you will have gross violations of the law a few years down the road and at that time then we will face the consequences, whatever that may be, and we should avoid that in advance.

Ms. BROWNER. You make a very valid point.

Mr. NADLER. Thank you.

Mr. APPELEGATE. Thank you, Mr. Nadler. Very pointed.

Last, but not least, we have a couple of wrap-up questions from our Ranking Minority Member, Mr. Boehlert.

Mr. BOEHLERT. With regard to the SRF approach, I hope the administration will come to see that 20 years, most agree that is too short a time frame, and I would assume that you are exploring that, and that when the administration program comes forward, that will be a 30- or 40-year time frame.

Ms. BROWNER. Absolutely.

Mr. BOEHLERT. Secondly, I hope you are looking at innovative approaches in the evolvment of the administration's position regarding marketable trading permits under the Clean Water Act.

Ms. BROWNER. There has been some discussion of that and we are engaging in trying to bring a group together, and also with your staff, to discuss that. There are some interesting ideas that have been put forward. I think we have to look at them carefully. I think some of them can work.

Water is a little different than air and you don't have sort of the same national connection that has been able to be made in terms of air on the acid rain program, but it may well be within certain watersheds that there are mechanisms.

Mr. BOEHLERT. But you are looking at it?

Ms. BROWNER. Yes.

Mr. BOEHLERT. All right. Thank you very much. Look forward to working with you.

Mr. APPELEGATE. Thank you very much, Ms. Browner. You have been here a good while.

Ms. BROWNER. Well, I have enjoyed it.

Mr. APPELEGATE. I'll bet.

Ms. BROWNER. I have.

Mr. APPELEGATE. Well, I can say that you have been very forthright and answered the questions, and there has been a lot of questions. And, as you can see, there is a very large amount of very serious concern.

We will continue to look forward to working with you as time goes on. I hope that you are going to be able to get your staff together and your water people and those that we will deal with with Superfund, that we will be able to move forward with those specific areas, because it is extremely important, and it is just pretty difficult to move forward without them and we hope that the President and the White House does come forth with a very comprehensive plan with a lot of the things that Mr. Boehlert and I and some of the others are concerned with.

But we will work together to make it a good piece of legislation, whatever it is.

Ms. BROWNER. Thank you and thank you for the opportunity to be here today.

Mr. APPELEGATE. Yes. And, Martha, thank you very much for being here before the committee.

Ms. PROTHRO. Thank you.

Mr. APPELEGATE. Next we have Dr. G. Edward Dickey, Acting Assistant Secretary of the Army, Civil Works. If he would take the microphone there, and we welcome you to the committee.

You have been very patient, been sitting there; I hope you learned something too and got pretty much of an idea of the inter-

est that we have and the concerns that we have and particularly in the area that you are responsible for.

Mr. Boehlert, do you have any statement or anything like at that?

Mr. BOEHLERT. Yes, welcome. Let's go to it.

Mr. APPELGATE. Let's go to it.

**TESTIMONY OF G. EDWARD DICKEY, ACTING ASSISTANT SECRETARY OF THE ARMY, OFFICE OF CIVIL WORKS, ACCOMPANIED BY MICHAEL L. DAVIS, ASSISTANT FOR REGULATORY AFFAIRS**

Mr. DICKEY. Thank you very much, Mr. Chairman, I know the hour is late and indeed the morning has been instructive. I would like to summarize very, very briefly my prepared statement.

I would point out I am accompanied today by Mr. Michael Davis, the Assistant for Regulatory Affairs in the Office of the Assistant Secretary of the Army for Civil Works, and we will be happy to answer whatever questions you might have.

Let me just say, first of all, that, the Army Corps of Engineers has been in the regulatory business since 1899 and has administered the 404 program since 1972. We work very closely with EPA which provides the policy framework for the administration of the 404 program.

We all recognize the 404 program has been an evolving program. It is, however, a very high priority of the Department of the Army. We are very much committed to making it work with the goal of providing high quality protection of the environment without an undue burden on the regulatory public. We have strongly supported the program with both financial and people resources.

We have recently completed a number of actions which have facilitated the administration of the program and we have a number of additional actions under way with EPA and with other agencies that will further improve the program.

In addition to administering the 404 program, the Corps of Engineers has a great deal of expertise in a broad range of environmentally related activities and specifically activities related to wetlands preservation and restoration. And these skills complement the expertise we bring in the administration of the regulatory program.

Specifically, I have outlined a number of different activities in my prepared statement-in particular the Corps has several activities under way with regard to habitat restoration. We would note specifically the Kissimmee River project, which was authorized in the Water Resources Development Act of 1992, or actually it was authorized before 1992, but it has been authorized a number of times, and we, indeed, completed a restoration plan that was finally authorized in WRDA 1992 and we are now under way with design of that.

Our most recent and most important initiative, and I think it is symptomatic with where this administration may be going, is the study that we have recently agreed to and have presented in our budget on looking at possible measures for restoration of the Everglades' ecosystem. That study proposal is the result of an initiative that the Secretary of Interior, Mr. Babbitt, proposed. I met with

Secretary Babbit and we agreed to use Corps' resources to fund a reconnaissance study which will look at Everglades' ecosystem restoration.

Let me conclude with these brief remarks and answer whatever questions you have.

Mr. NADLER [presiding]. Since I am sitting in for the Chairman—

Mr. APPLGATE. No, go right ahead.

Mr. NADLER [continuing]. I was going to say since I am sitting in for the Chairman, I would ask Mr. Boehlert if he has any questions, but I think the Chairman will have some questions in a moment.

Mr. BOEHLERT. I will start, Dr. Dickey. I have a couple.

Can you give us a status report on mitigation banking; how well it is working, from your perspective?

Mr. DICKEY. Well, the Corps of Engineers has a study under way that is looking at mitigation banking across the country. There are a number of banks that have been established. Mostly they are by highway departments, State highway administrations or port authorities. There is only one entrepreneurial bank that has been approved so far, and that is in Savannah.

The other thing we are doing, in addition to looking at past experiences, and I must say mitigation banking, of course, has been around, it has been talked about for a long time, and what we are seeing is a bunch of different approaches, different experiments, if you will, as different States—

Mr. BOEHLERT. A little early to tell, then?

Mr. DICKEY. I wouldn't say it is too early to tell, and I would say we will, systematically, tell you about it in about a year from now when we finish our report. But we are developing guidance with EPA on how the mitigation banking relates to the administration of the 404 program.

What we want to do is create some predictability and define expectations as to how we, as the permitting agency, will view proposals for mitigation. In other words, better define the market, if you will, for the services of the mitigation banks and, therefore, encourage more private development of such banks.

Now, since there is no guidance, that there is a lot of uncertainty, and no private individual is going to go out and invest in creation or restoration of wetlands, for example, with the hope of selling those to would be developers without a clear definition of how the regulatory agencies are going to view these proposals. That is what we are trying to do in the short term.

Mr. BOEHLERT. But are you optimistic it offers great promise?

Mr. DICKEY. Oh, yes, I think it is generally recognized that mitigation, to the extent it needs to be resorted to, compensatory mitigation, is probably better done on a large scale, with large tracts rather than isolated efforts which have characterized many mitigation practices in the past.

Mr. BOEHLERT. In your statement you point out about one-third of the individual permits requested are neither approved nor denied. Some are covered by general permits and some are withdrawn. Some are never concluded because the applicants fail to provide complete information.

Can you give us the numbers of how many fall into each of these categories?

Mr. DICKEY. Unfortunately, we don't have that.

Mr. BOEHLERT. You don't have it readily available or you don't have it available at all?

Mr. DICKEY. No, we don't have it available. That statistic has been mentioned a number of times and every time we use it, that question is asked, because it is an obvious one, and I apologize for not having that breakdown, but somehow we have been unable to generate that information.

Mr. BOEHLERT. You point out the question is always asked. Do you always give the same answer; you don't have it?

Mr. DICKEY. Yes.

Mr. BOEHLERT. That is not very good, is it?

Mr. DICKEY. No, it is not and we are going to change that.

Mr. BOEHLERT. Oh, well, that is good. Raise your right hand and say I will change it 100 times.

Let me ask one further one. One criticism of the wetlands program is the absence of any formal appeals process. You know, if you have an agency, one of the resource agencies, they can appeal if they don't like the decision, but what about the applicant? There is no appeal process for the applicant?

Mr. DICKEY. When a permit is denied, the applicant can also always resubmit, and I am aware of some cases where I have had meetings with people in fact who come in and say, gee, what do we have to do since our permit was denied? The applicant does have the right to resubmit if his permit is denied.

Mr. BOEHLERT. But there is no headquarters' review; the regional guys can say no if they want to and the applicant has no appeal process?

Mr. DICKEY. The applicant can appeal by submitting additional information and I said that people—

Mr. BOEHLERT. Why not treat him the same way you treat the resource agencies?

Mr. DICKEY. If for no other reason, we think the program works pretty well the way it works now and, indeed, if you recognize an appeal process, you have really created routinely a two-step process rather than a one-step. There perhaps would be something gained by that. We don't think so, but it certainly imposes an added burden on applicants in the longer term.

Mr. BOEHLERT. I like it for fairness. You may not see this, but I am green. I am a strong enviro, but I am sympathetic to the plight of the applicants, and I think that they should have some additional remedy. If they don't like the decision, I think they should be able to appeal it. The resource agencies can. It seems there is a double standard.

Mr. DICKEY. Well, they can appeal, if you will, by submitting a new application. They have that right and, as I say, people have come into Washington, I have met with them in fact to discuss exactly what is deficient in their proposal, why their permit was denied so forth. So they get the benefit of a Washington level perspective on that.

But I am saying to make that a routine process, we do not think it produces benefits commensurate with the added delays and costs which it would impose on the process.

Mr. BOEHLERT. You are very fortunate. There is good news and bad news here. The bad news is United States to sitting through a whole morning but the good news is that here we are.

Mr. DICKEY. I appreciate that.

Mr. BOEHLERT. Thank you very much.

Mr. DICKEY. Sure.

Mr. APPLGATE. I appreciate very much your coming in and your statement pretty much says what it is that you feel, but there are a lot of other questions. Carol Browner was able to answer a lot of them with regard to your responsibilities, but we will be submitting questions to you, but let me just ask you this.

In your statement you mention that the Corps—in relationship to the National Academy of Sciences, the delineation study, that you are not a member of a so-called task force, I understand, you are a member of the Interagency Liaison Group that will provide background and information and reference materials. Give me some observations on that. What do you think we might be able to expect and do we need to expect anything at all?

Mr. DICKEY. Let me speak from my perspective, which is largely that of ignorance, but let me speak philosophically about this. We had this enormous controversy about the 1989 manual, and I am speaking on the basis of the volume of letters that were received, typically letters to the President, which were referred to my office for a response, there was just an enormous amount of unhappy people.

The culmination of that agitation, if you will, was the abandonment of the 1989 manual and the adoption by the Corps of its 1987 manual, and EPA has joined us in that, okay?

So now we are, pending this study which is being done by the National Academy of Sciences, using the 1987 manual, and I think, from my perspective, and again I judge on what I receive in the mail and what I hear as I talk to people as I travel around the country, or folks come in from around the country, that the 1987 manual is functioning quite well. And one of the reasons it is functioning as well as it is is because it has a considerable amount of flexibility in it that was lacking in the 1989 manual.

Now, the National Academy study will no doubt give us additional information as to what constitute wetlands, and we are very hopeful, of course, that it will affirm the principles under which our current manual operates. But regardless of what comes from that study in a scientific way, and I am speaking here again as a career civil servant, the one thing that I note in the whole experience with the various manuals is that the administration—or that the determination of the jurisdiction of the 404 program is much more than a scientific question. This is a question of determining the jurisdictional scope of a very important law that carries with it very severe penalties for violating it.

And so the standards of evidence that one might require in terms of asserting that this is a jurisdictional wetland may be somewhat different, in fact more strict, than what in some scientific sense could be discerned as a wetland. And I don't know how that is all

going—I don't know what the National Academy's study will show, but I just want to caution the committee that this is not a mechanical process that is going to give you the answer. It is going to give you additional valuable information, but I believe that whoever is establishing the policy as to the jurisdictional coverage of our law is going to have to take that study and use it to make further policy judgments, and in the best sense of the word it is going to require a political review and a determination of what will then be the manual which individual practitioners, individuals in the Corps of Engineers or people in the private sector, who are certified as wetlands delineators, gather the kind of evidence that needs to be put forth before one asserts that a particular piece of ground is subject to 404 jurisdiction.

Mr. APPLEGATE. So what I gather from that is that we really don't need the NAS study? I am not going to say that you said that, but—

Mr. DICKEY. No, no.

Mr. APPLEGATE [continuing]. But that the 1987 manual seems to be working quite well now and with much less controversy than the 1989 manual?

Mr. DICKEY. Yes, that is precisely right, Mr. Chairman, and I think that is not to say we won't perhaps, get valuable information from the study, but I don't think there is the same kind of urgency that there was when we had the 1989 manual.

Mr. APPLEGATE. I guess that is testimony to the fact that the amount of correspondence that was coming in used to be so great but now it has really dwindled to so very little which must say something.

Mr. DICKEY. Yes, I believe it does.

Mr. APPLEGATE. I think you have covered the field and I appreciate very much your coming before the committee. We may call upon you again for some further questions.

Mr. DICKEY. Any time, Mr. Chairman.

Mr. APPLEGATE. Thank you very much, Doctor.

Mr. DICKEY. Thank you.

Mr. APPLEGATE. Before we conclude, I would like to insert into the record at this point a statement received from Congressman Pete Peterson of Florida.

[Whereupon, at 12:40 p.m., the subcommittee adjourned.]

[Mr. Peterson's statement follows:]

**PETE PETERSON**  
2d DISTRICT, FLORIDA

COMMITTEE  
ON  
APPROPRIATIONS  
SUBCOMMITTEES:  
ENERGY AND WATER  
RESOURCES  
AGRICULTURE AND RURAL  
DEVELOPMENT

**Congress of the United States**  
**House of Representatives**  
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PANAMA CITY, FL 32401  
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**Statement of Congressman Pete Peterson (FL-2)**

Supporting the Save the Florida  
Bay Act of 1993

Public Works and Transportation  
Subcommittee on Water Resources

May 5, 1993

(1617)

Mr. Chairman, I would like to submit testimony in strong support of the Save the Florida Bay Act of 1993 that was introduced by my distinguished Florida Colleague Clay Shaw and of which I am a cosponsor. It is an honor to return to my old subcommittee to talk about water issues. This is a great committee and I want to congratulate you, Mr. Chairman, on your appointment. Knowing you, I see this subcommittee aggressively addressing water issues important to the Nation's infrastructure. I miss participating in these issues with my former colleagues on Public Works, but I continue to watch over water matters as a member of the Appropriations Energy and Water Subcommittee.

Florida Bay serves as a key water management system for southern Florida that supports the economic integrity of both commercial and recreational fisheries. The Bay also accommodates the only living coral reef system in the nation that is now being threatened by algae blooms.

However, because of the decline in fresh water flow to the Bay, large amounts of sea grass beds and sponges have been lost. As you may know, sea grass and sponges provide habitat for juvenile pink shrimp and lobsters. Current reports have indicated that shrimp harvests have fallen by at least 40 percent in the past decade and that a similar drop is expected to occur in lobster catches.

Another point I would like to make, Mr. Chairman, is because fresh water is being diverted from its natural flow into the Bay, the Bay's saline levels have increased. As a result, algae bloom, which thrives in the saline water, is killing organisms and sealife. Unless the fresh water balance is restored quickly to the Bay, I can see an escalating problem with the bloom that

eventually destroys the natural fisheries of the Bay.

I am also concerned that the bloom problem will put a seriously negative impact on tourism in the Florida Bay area. Thousands of people from all over the U.S. come to see the magnificent coral reefs in Florida Bay annually. The negative economic impact is already being felt by local proprietors who directly operate tourist attractions and by other businesses that provide logging, transportation, and entertainment.

I, like many of my Florida colleagues are very concerned about the future of Florida Bay and its surrounding habitat. I believe, Mr. Chairman, we need to concentrate now, more than ever, to restore the natural flow of fresh water to Florida Bay. By focusing on this problem now, the total cost to reverse the ecological damage in Florida Bay will save the taxpayer funds in the future as well as help preserve the tourist industry in South Florida.

Mr. Chairman, I thank you for allowing me to submit this important testimony to the Public Works and Transportation's Subcommittee on Water Resources. Furthermore, I would like to thank my colleague, Congressman Shaw, for helping to elevate the sensitivity of this meaningful cause for the state of Florida.

[Subsequent to the hearing, additional questions were submitted to Mr. Dickey by Representative Menendez. The questions and responses follow:]

DEPARTMENT OF THE ARMY  
OFFICE OF THE ASSISTANT SECRETARY  
WASHINGTON, DC 20310-0103



0 5 AUG 1993

Honorable Douglas Applegate  
Chairman  
Subcommittee on Water Resources  
and Environment  
Committee on Public Works  
and Transportation  
House of Representatives  
Washington, D. C. 20515

Dear Mr. Chairman:

This is in response to your letter of May 18, 1993, in which you forwarded additional questions from Congressman Robert Menendez to my office for reply and inclusion in the record of the May 5, 1993, Hearing on the reauthorization of the Federal Water Pollution Control Act. The answers to the questions are enclosed.

If you have any questions or need additional information, please do not hesitate to contact Mr. James P. Rausch, Chief, Legislative Initiatives Branch, (202) 272-0117.

Sincerely,

A handwritten signature in dark ink, appearing to read "G. Edward Dickey".

G. Edward Dickey  
Acting Assistant Secretary of the Army  
(Civil Works)

Enclosure

CF:  
Honorable Sherwood L. Boehlert  
Ranking Republican  
Subcommittee on Water Resources  
and Environment  
Committee on Public Works and Transportation  
House of Representatives  
Washington, D. C. 20515

Honorable Robert Menendez  
House of Representatives  
Washington, D. C. 20515

CONGRESSIONAL HEARING  
May 5, 1993  
REAUTHORIZATION OF THE FEDERAL WATER  
POLLUTION CONTROL ACT

RESPONSES TO QUESTIONS

Note: Most of the questions pertain to matters solely under the responsibility of the Environmental Protection Agency (EPA). Responses are given for the questions where the Army Corps of Engineers is solely responsible or jointly responsible with EPA.

Question II. Alternative site for disposal of dredged materials:

Question: In 1983, the Army Corps of Engineers designated a "Mud Dump" located six miles off of Sandy Hook, New Jersey as the disposal site for dredged materials from Port Newark/Elizabeth. The site is expected to reach its capacity of 100 million cubic yards of sediment in 1997. Either a new site must be designated or the existing Mud Dump must be redefined by expanding the boundaries.

Answer: First, may we be more specific on the facts regarding the designation of the "Mud Dump" pursuant to Section 103 of the Marine Protection Research and Sanctuaries Act of 1972, more commonly known as the Ocean Dumping Act. As prescribed in the statute, the ocean dredged material disposal site for the Port of New York and New Jersey was designated by EPA effective June 1984, after their preparation and issuance of the required environmental statement published in the Federal Register in May 1984. The site was designated for a capacity of 100 million cubic yards. Since the EPA designated the "Mud Dump" site, they may also respond to this question. In any event, the following contains the Corps understanding of the current situation.

Question: What is the potential for continuing the disposal of dredged materials at the Mud Dump site?

Answer: We expect to reach the total volume restriction included in EPA's site designation as early as the end of 1995 or as late as 1997. The variation is based on two issues: a) whether the volume of sand caps or covers that are used to enclose some dredged material is included in the total volume limitation for the site, and b) whether the site is physically able to accommodate the full 100 million cubic yards it was designated for.

Question: How long would it take to designate an ocean disposal site? [It took seven years to set up the Mud Dump.]

Answer: The EPA process to designate a new site has started. The New York District is cooperating with Region II EPA in this effort. The current approved schedule is to designate a new site in the ocean by the end of 1995, but it is our understanding that because the environmental impact statement process has not been started, that date is currently being revised.

Question: How long would it take to redefine the existing boundaries?

Answer: Redefining the existing disposal site boundaries would be no faster than the site designation process discussed above, because it is still a designation, even if it is physically next to and adjacent to the existing two square mile site.

Question: What steps are being taken to avoid a situation where the Mud Dump reaches capacity, and no other site has been designated as a replacement?

Answer: Steps have not been taken to provide interim disposal sites, because EPA, at this time, expects to designate an ocean site before the existing one closes.

Question III. Follow-up on Water Resources Act Instructions to EPA:

Question: 1) Under the Water Resources Development Act of 1992, the EPA and the Army Corps of Engineers were instructed to jointly select removal, pre-treatment, post-treatment, and decontamination technologies for contaminated sediments for a decontamination project for the New York/New Jersey Harbor by October 1993. Funding of \$2.7 million was provided to the EPA and the Army Corps for this purpose.

What has been done to date to start this project?

What is your expectation as to the time frame and total cost of the decontamination project?

Also, could you provide for the record how additional funds for FY 1994 would be used, if provided by Congress?

Answer: Although this is a joint responsibility of the Army Corps of Engineers and EPA, EPA has the funding and scheduling responsibility for this project, and we defer to EPA to respond to this question.

Question: 2) The Water Resources Development Act also established a National Contaminated Sediment Task Force, the membership of which includes one representative each from the Administrator of the EPA, the Secretary of the Army, and the National Oceanic and Atmospheric Administration. This task force is required to review and assess the means and methods for locating and constructing permanent, cost effective long-term disposal sites for the disposal of dredged material not suitable for ocean dumping (as determined under previous law).

The Task Force is required to submit a report to Congress stating its findings and recommendations by October 31, 1994.

At what stage are we with this requirement? Has the Task Force been assembled and begun its work?

Answer: The EPA has the responsibility to administer this task force and we defer to EPA to respond to this question.

Question VIII.

Question: You are aware that the problems with dredging of terminal facilities in the Port of New York and New Jersey have their root in dioxin contamination upstream in the Passaic River as well as in Newark Bay. Beyond the pollution in the waters, another problem has surfaced and that is in the permitting process. It has taken over three years and there has yet to be a permit issued for the disposal of the sediments which have passed the necessary tests.

Answer: As correctly stated in the question, the problems of dredged material disposal both in the Port of New York and New Jersey, as well as nationally, comes directly from upland pollution that enters and settles into the natural bottom sediments that must be dredged for safe navigation.

Question: What, if anything, in your opinion should be done to improve the Clean Water Act to both prevent future contamination of coastal waters and to facilitate their cleanup?

Answer: EPA is currently preparing a Contaminated Sediments Management Strategy. Army believes that the following items should be addressed in that strategy:

- a. Point source industrial and municipal discharges must be monitored to ensure they meet discharge standards and when necessary, enforcement actions must be taken.

b. Urban and industrial storm drainage (including combined sewer overflows) should be addressed in the reauthorization of the Clean Water Act. It will be expensive, but removal of pollutants from these systems is a necessity to obtaining clean water in the coastal areas.

c. Rural and agricultural runoff contribute to the pollution load in coastal areas. The pollutants from these sources should be addressed in the reauthorization of the Clean Water Act.

d. Studies are underway to obtain methods and costs for the remediation of contaminated sediments. It may be necessary in some case to remove and dispose of these contaminated sediments. This must be addressed in the Clean Water Act to ensure clean water in the coastal areas. It is not realistic or fair to place the costs of removal and disposal of contaminated sediments in the operation and maintenance budgets for the harbors and rivers involved, but these remediation costs are more rightly placed on the parties responsible for deposition of the contaminated materials.

Question: Also the dredging permit I mentioned is to be issued under the Ocean Dumping Act, is there anything to be learned from this experience that would point to the need for amending the Clean Water Act in order to avoid such an unacceptable period of time in the issuance of permits?

Answer: The lesson to be learned from the experience in the Port of New York and New Jersey, which is also applicable to the Clean Water Act regulated discharges of dredged material is that as testing procedures and technology become more detailed and sophisticated, it is even more important that science based regulatory standards are developed simultaneously so that the regulators can make prompt permit decisions.



PREPARED STATEMENTS OF WITNESSES

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TESTIMONY OF  
CAROL M. BROWNER  
ADMINISTRATOR  
U.S. ENVIRONMENTAL PROTECTION AGENCY  
BEFORE THE  
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT  
OF THE  
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION  
U.S. HOUSE OF REPRESENTATIVES

May 5, 1993

Good morning, Mr. Chairman and Members of the Subcommittee; I am Carol Browner, Administrator of the Environmental Protection Agency (EPA).

Accompanying me this morning is Martha Prothro, Acting Assistant Administrator for Water. I am very pleased to appear before you today to discuss the important challenges that confront our Nation, her leaders, and all citizens as we undertake to achieve the goals of the Clean Water Act (CWA).

Mr. Chairman, I appreciate your role in fostering this CWA reauthorization process, and I look forward to working with you on the many issues involved, particularly: *funding* issues associated with drinking water and wastewater treatment; ways to promote *watershed protection* and *pollution prevention*; and solutions to water quality problems associated with *polluted runoff* from wet weather flows. These critical environmental issues require effective, innovative solutions that, in practice, must be implemented with the resources we can *reasonably* expect to be available to governments and the private sector. We need to tap the energy and ideas generated by public and private partnerships and to involve those with a stake not only in achieving the goals but in implementing the solutions by which these goals are to be attained. Investment in our natural

resources not only reflects our obligation to act as stewards of our environment--to hold the environment in trust for our children, but also represents sound economic policy.

## **INTRODUCTION**

The CWA has been a cornerstone of EPA's environmental protection efforts for the last two decades. The Act gives us broad and flexible authorities and, because of this, the Act is considered by many experts to be one of the best federal environmental statutes. Under the CWA, we already work with States, other federal agencies, localities, the private sector, and citizens to address serious water resource problems posed by municipal and industrial discharges, and discharges of dredged or fill material, as well as by polluted runoff from what are known as nonpoint sources. More recently, we are reorienting our focus to move beyond simply controlling pollution sources, to addressing the aquatic ecosystems and integrating, or improving, the programs needed to protect and restore them. We know that our Nation's aquatic ecosystems provide habitat to many diverse forms of life. We must consider not only the chemical but also the physical and biological components of these systems to maintain the integrity of our Nation's waters. The challenge facing us today is how to focus on the remaining threats to our Nation's waters, some of which may not be adequately addressed through current national regulatory or cooperative programs EPA now implements.

At the same time, we must also recognize that new initiatives have placed and will continue to place a significant increased burden on State and federal water quality protection programs. Similar demands are placed on local drinking water systems. Without additional funding, State and local water and wastewater programs will not be able to fulfill the mandates of the CWA or the Safe Drinking Water Act, or meet the expectations of the public.

We need to be sure that adequate resources are available--and available for the right purposes--in order to ensure continued progress in protecting water quality. Similarly, we have seen industry come to applaud and even promote pollution prevention as a common sense approach to reducing costly pollution controls while conserving valuable raw materials. We also recognize that in many instances economic incentives and market forces can be used to achieve progress more efficiently than additional controls. Finally, we must not overlook the economic consequences if we choose to abandon our commitment to the environment.

Although we must do better at quantifying these economic costs, many of the benefits of protecting and restoring our Nation's waters are obvious, including: improved health and increased life spans resulting from cleaner drinking water; safe and more abundant sources of food supply, recreation and commerce; natural flood and erosion protection; and abundant fish, shellfish, and wildlife and the irreplaceable natural environment.

Even in difficult economic times, the American people have said they recognize the cost of neglecting the environment and have reaffirmed their conviction that money spent on surface water pollution control and drinking water treatment are sound investments. We are all beginning to appreciate the fact that safe, healthy water resources and healthy aquatic systems are not cost-free, and to appreciate as well that it is worth the cost.

We have a great deal of which to be proud. Thanks to sustained effort by federal and State environmental and resource agencies, timely compliance by many dischargers, and the vigilance of citizen groups and government enforcement authorities, the discharge of toxics and other pollutants to our Nation's waters has decreased significantly. Nearly 75% of the Nation's assessed surface waters are meeting their statutory goals based on current water quality standards. This progress must not be lost and, as our science improves, we must continue to address significant discharges of toxic pollutants by industry and municipal wastewater plants.

At the same time, we must recognize that nonpoint sources and habitat loss, together with unaddressed point sources such as storm water runoff and combined sewer overflows (CSOs), are responsible for the majority of our remaining water quality problems. Through the reauthorization of the CWA, together we offer this Nation a precious opportunity to attain its environmental goals. This requires us to acknowledge not only that pollution comes from many

pathways, but also that it can often be addressed in a common sense, cost-effective manner, using tools that are already within our reach.

## **OUR FOUNDATION: THE STRUCTURE OF THE CLEAN WATER ACT**

### Overview

Before we sketch possibilities for the future, I believe it is important to understand the foundation upon which we build. In 1972, Congress gave EPA, the Army Corps of Engineers, and the States broad authority to address water pollution. The National Marine Fisheries Service and the Fish and Wildlife Service, through the Fish and Wildlife Coordination Act, were also given a broad mandate for habitat protection. The goal of the CWA is to "restore and maintain the chemical, physical, and biological integrity of our Nation's waters." Under this mandate, we have developed sound programs to reduce point source discharges of pollutants entering all surface waters, including lakes, rivers, estuaries, oceans, and wetlands. Through the construction grants program and, more recently, the State revolving fund (SRF) program, the federal government has made available to States and municipalities nearly \$67 billion since 1956 to finance the construction of major wastewater treatment facilities and the implementation of other critical water quality improvement programs. The statute also has promoted better assessment, identification and targeting of impaired waterbodies and has taken

first steps toward addressing the consequences of wet weather flows, polluted runoff, habitat loss and, to some extent, poor watershed management.

Under the CWA, EPA develops national uniform effluent limitation guidelines, new source performance standards, and pretreatment standards for categories of industries, such as electroplating, pharmaceutical manufacturing, and textiles. These effluent guidelines and standards generally reflect application of the best available technology that is economically achievable. They also include best management practices. Early guidelines covered roughly 129 toxic pollutants, while our more recent guidelines have covered over 400 toxic pollutants. Sewage treatment plants, in turn, are subject to secondary treatment requirements. Those regulations set end-of-pipe performance standards, based on the treatment technology available at the time, allowing dischargers flexibility in choosing the method of compliance.

States are given primary responsibility to develop water quality standards for waters within their jurisdiction. State water quality standards provide the basis for many federal and State water quality management decisions. In developing these standards, States designate specific uses for their waters--such as fishing, swimming, or drinking--and prescribe criteria to protect these uses. These criteria were traditionally pollutant-specific and define levels of pollutants that will not interfere with the designated use. States typically use both national criteria guidance issued by EPA and other scientific information to develop their standards. Recently, through State and federal rulemaking, numeric water quality criteria for

"priority" toxic pollutants are now in place for waters impaired or threatened by those pollutants. EPA is also developing criteria guidance for States to use in adopting standards to address physical and biological parameters. In addition, State water quality standards programs include an antidegradation policy to ensure that existing uses and high quality water resources are maintained. States must review their standards every three years to ensure that they remain adequate, especially in light of new scientific and technical information and additional criteria that may need to be adopted to fully protect designated uses.

#### The National Pollutant Discharge Elimination System Program

The water pollution permit program, known as the National Pollutant Discharge Elimination System (NPDES) program, is one tool by which State or federal permitting authorities translate State water quality standards and federal effluent guidelines into actual pollutant limits for point source dischargers. NPDES programs are administered by EPA, or by States with EPA approval. Currently, 38 States and 1 territory are authorized to operate NPDES programs; EPA administers the NPDES program in all other jurisdictions, although three States--South Dakota, Texas, and my home State of Florida--are in the process of seeking necessary NPDES authority. The national NPDES program addresses more than 65,000 traditional "point source dischargers" such as industries, municipal sewage treatment plants, and some classes of animal feeding operations. In addition, there are well over 100,000 point sources addressed under the urban and industrial

storm water portion of the program and more than 1100 combined sewer systems with more than 10,000 CSO outfalls. The NPDES program has been widely credited as the principal reason for the significant water quality improvement in our Nation's waters over the last 20 years.

#### Pretreatment Program

The CWA does not require EPA or State NPDES permits for industries that discharge into municipal sanitary sewer systems rather than directly into surface waters. Instead, these "indirect dischargers" are addressed through the pretreatment program. Prior to discharging into municipal systems, they are required to remove, or pretreat, those pollutants that could interfere with the operation of a sewage treatment plant or that could pass through and pollute surface waters or the sludge produced by the treatment process. The role of EPA and approved States is to set requirements and procedures for approval of local pretreatment programs, oversee implementation, promulgate national technology-based standards for indirect dischargers, and operate programs where State and local governments do not. These local programs also establish and enforce local limits more stringent than national standards when necessary to protect water quality, sludge quality, and worker health and safety. EPA, States, and approximately 1,500 approved cities are responsible for imposing and enforcing national as well as any local pretreatment requirements for over 30,000 significant industrial users and thousands of smaller indirect dischargers.

Wetlands/ Aquatic Habitat Protection

In addition to the NPDES permitting program, the CWA creates a program in §404 to govern the discharge of dredged or fill material into navigable waters. This program, administered jointly with the Army Corps of Engineers, is a significant component of EPA's efforts to protect aquatic ecosystems.

Under §404, EPA develops the environmental regulatory criteria for evaluating permit applications. EPA, along with the National Marine Fisheries Service and the Fish and Wildlife Service, also reviews permit applications. If necessary, EPA can "veto" permits that would result in unacceptable adverse impacts to wildlife, fisheries, recreation, or municipal water supplies. EPA and the Corps share responsibility for enforcement of the §404 program, and EPA is responsible for approval and oversight of State §404 programs. In addition, under our responsibilities for administering the CWA as a whole, EPA also has the ultimate authority to define the geographic scope of CWA jurisdiction, including wetlands, and to determine the scope of activities exempt under §404(f). It is this role that prompted Congress to appropriate funds to EPA for the purpose of having the National Academy of Sciences conduct a study on wetlands delineation.

EPA's efforts to address wetland and other aquatic resource losses and degradation go beyond the §404 program. We are working with our State counterparts to enhance their role in comprehensive protection, including helping them to assume §404 authority. EPA is providing grant assistance to help States develop wetlands programs and providing technical assistance in areas such as

§401 water quality certification, wetland water quality standards, and integrating wetlands into water resource planning through watershed plans and management practices. EPA has provided assistance to 19 States through Fiscal Year 1992 to develop State Wetland Conservation Plans or Strategies as a way to integrate and improve the effectiveness of protection and restoration programs. EPA has established a Wetlands Hotline to help answer questions and meet information needs of the general public.

EPA, in conjunction with other federal, State, and local groups, is developing private/public partnerships to protect wetlands such as co-sponsoring American Wetlands Month each May, encouraging private landowner participation in voluntary wetlands assistance programs, and creating the Audubon's America program. EPA just completed its next five-year Wetlands Research plan focusing on wetland functions and criteria to protect those functions, landscape scale assessment, and improving wetlands restoration and creation.

### Enforcement

Essential to the success of the CWA is the presence of a vigorous enforcement program. Enforcement and the manner in which we exercise the discretion to use enforcement tools remain an integral component of a successful environmental program. One successful example of EPA's enforcement effort is the National Municipal Policy, under which States and EPA assured municipal facilities met the CWA July 1, 1988 statutory deadline for wastewater treatment.

Largely as a consequence of the National Municipal Policy, of the 4,000 major municipal NPDES permittees, the number in significant non-compliance has decreased from an average of 15% in fiscal year 1986 to 9% for the first quarter of 1993. In 1987, 74% of the municipal facilities had installed treatment necessary to meet basic technology-based requirements. In 1993, that number has increased to 97%.

EPA has also implemented an aggressive administrative and judicial enforcement program. In fiscal year 1992, EPA took approximately 1450 formal enforcement actions under the CWA. Of these, 272 involved the assessment of penalties totalling \$23,066,200. Further, over the period of time from 1989 through 1992, the average judicial penalty has increased from about \$143,800 to about \$414,500. The average administrative penalty has also increased over the same time period from \$17,080 to \$22,895. Since 1975, the Agency, along with the assistance of the Department of Justice, has concluded 904 judicial cases and, since 1987, 802 administrative penalty cases, for a total of over \$125 million in penalties.

Water Quality Act of 1987 and  
the Coastal Zone Act Reauthorization Amendments of 1990

In 1987, the Water Quality Act amended the CWA and signaled some important new directions for EPA and the States: new water quality-based controls for toxic pollutants; industrial and municipal storm water controls; new

State responsibilities for polluted runoff to surface waters; and increased attention to special aquatic resources such as estuaries, bays, and lakes, as well as critical aquatic habitat such as wetlands. The Act also ushered in the State Revolving Fund (SRF) program to provide continuing support for wastewater treatment. Although previous statutes had begun to address these problems, the 1987 amendments reflected the Nation's increased awareness that water quality degradation is caused not only by pollutants pouring out of pipes, but also from nutrients, soil, and chemicals that run off our streets, farms, fields, lawns and forests. The amendments also recognized that diverse ecological resources must be protected by means of geographically targeted solutions to locally identified problems. Without yielding the gains which we achieved through the application of traditional, end-of-pipe controls over other causes of water pollution, we need to reaffirm and, indeed, to expand our federal, State and local efforts to address impairments from uncontrolled wet weather point sources and non-point sources.

In addition, pursuant to the Coastal Zone Act Reauthorization Amendments of 1990, 29 coastal States and territories are developing, for joint approval by EPA and the National Oceanic and Atmospheric Administration (NOAA), coastal nonpoint pollution control programs to control or minimize contaminated runoff to waters associated with agriculture, silviculture, urban activities, marinas, and hydromodification through application of best management practices and protection and restoration of wetland and riparian areas. These programs will provide for the implementation of management measures in conformity with

guidance published by EPA and will also provide for the implementation of additional management measures as necessary to achieve and maintain water quality standards and protect designated uses. EPA's management measures guidance was developed in collaboration with our sister federal agencies, States, the potentially affected sources, and the public. We believe that these coastal nonpoint programs represent an important step in the restoration and protection of our Nation's impaired and threatened waters.

## OUR GUIDING PRINCIPLES

### Watershed Protection

Before addressing specific issues, I would like to articulate what I believe should be the guiding principles for CWA reauthorization. Even as our Nation's water quality steadily improves, we face new challenges that demand new solutions. I have already indicated that the *protection of watersheds* must be a priority for us. But what does this mean? The Clinton Administration envisions an approach to water resource protection that looks first to the ecosystem itself, evaluates its needs based on risk, and then tailors workable solutions to those needs through the participation of stakeholders in every phase of the process. As the Act itself envisions, our focus is on the biological and physical, as well as chemical, integrity of our Nation's waters. Although the Act's national technology baseline requirements have provided enormous environmental protection, this framework, which we call the "watershed protection approach," provides us with

the methods and the solutions needed to tackle the problems still facing our Nation's waters, those problems that are too diffuse and difficult to tackle any other way. Focusing on the watershed as a whole rather than merely on specific sources of pollution within the watershed is essential to ensure that we succeed in restoring and protecting the Nation's aquatic resources.

We must also apply a similar approach for the Nation's ground waters. We are increasingly finding that in certain watersheds ground water recharge to surface waters can be a critical factor in determining the ecological health of aquatic systems. We need to ensure incorporation of ground water in our watershed approach where it significantly influences surface water quality, and we need to guard against the possibility of transferring a pollution problem from surface water to underground sources of drinking water.

#### Pollution Prevention

I believe our second guiding principle should be an emphasis on *pollution prevention*. In the water program, as in other environmental programs, traditional end-of-the-pipe approaches have yielded significant gains in environmental quality. However, we now realize that treatment and disposal will not be sufficient to ensure continued progress. A more comprehensive, prevention-oriented approach within our base regulatory program will allow us to move even more effectively toward meeting the overall goals of the CWA.

There are numerous other benefits offered by implementing a pollution prevention philosophy. By reducing reliance on end-of-pipe or permit-by-permit controls, prevention also reduces the likelihood that a "solution" to one pollution problem will simply transfer the residual pollutants to different media. In particular, we have seen the transfer of surface water contamination to ground water contamination. Pollution prevention approaches, such as switching to different process solvents and reducing water use, have the potential to produce permanent solutions to environmental problems--solutions that require less investment in expensive pollution control and greater emphasis on good planning and strategic designs. It includes conservation techniques and changes in management practices to prevent harm to sensitive ecosystems and resources such as wetlands, ground water and estuaries. In addition, prevention may be the most cost-effective way to address many of the remaining sources of water pollution such as agriculture and urban runoff, the cumulative effects of incremental habitat loss, or numerous small sources, which can result in significant impairments of our water resources at the local level. Pollution prevention also complements the watershed approach. It offers additional tools that give us greater capability and greater flexibility to address localized problems requiring heightened attention.

#### Recognition of the Value and Cost of Clean Water and Healthy Waterbodies

Our third guiding principle must be our recognition of the value--and the cost--of clean water and healthy waterbodies. The Nation's waters, whether

degraded or pristine, are our children's inheritance. Measures we take now must not only return what is lost but also guard what is yet unblemished. However, these responsibilities carry a substantial price tag. We expect water safe enough to swim in, to fish from and to drink, and we expect healthy and diverse populations of plants and animals in our lakes, streams, wetlands, estuaries and oceans. Consequently, we must also expect to address the costs of treating our wastewater and our drinking water. By funding States, municipalities, and federal agencies adequately, we can help to ensure a reliable infrastructure of storm sewers, wastewater sewers, sewage treatment plants, and drinking water supply and treatment facilities upon which public health, our quality of life and many of our important economic sectors depend. Similarly, funding is necessary for other water quality programs to strengthen the scientific basis and guidance to support the prevention and control of nonpoint source pollution and the protection and restoration of estuaries and other important components of watersheds.

Clean, safe water was once viewed as free, but in our modern society this is recognized to be a false view. Just as we believe that the polluter should assume, at a minimum, the costs associated with researching, developing, administering and enforcing the permits under which the polluter is allowed to discharge pollutants into the aquatic environment, all of us, as users of our water resources, must appreciate and help bear the costs of water quality protection. As individuals, we pay user fees imposed by utilities to finance necessary treatment projects. We must also be sensitive to the importance of using water efficiently,

to help reduce costs and to prevent further degradation of our aquatic ecosystem. By acknowledging public and private responsibility for the costs of clean, safe water we also foster greater invention and innovation as the public and private sectors work to improve water quality in the most cost-effective manner possible. We anticipate fostering further innovation by examining and lowering barriers to technology innovation and by creating incentives that encourage innovation.

#### Need to Address Remaining Problems

The fourth guiding principle for reauthorization is the need to address the remaining water quality problems. Many of these are associated with wet weather flows: overflows from antiquated combined sewer systems that result in the discharge of raw sewage, commercial and industrial wastes and storm water during wet weather events; discharges from separate storm sewer systems that deliver toxics and other pollutants from urban and industrial sites to our waters; and polluted runoff from nonpoint sources. In addition, I believe we must confront the consequences of poorly managed land and water use activities that impair our Nation's ecological resources and address the habitat degradation and destruction that frequently results. The first twenty years of water pollution control under the CWA has accomplished much through its regulation of traditional industrial and municipal discharges. However, we must focus our attention now on these remaining problems and attempt to address them as effectively as we have addressed the problems of the past.

Finally, we need to enhance State and federal administration of water quality programs by strengthening enforcement authorities. A strengthened enforcement program would allow the Agency to respond more effectively to facilities that are not in compliance with the requirements of the CWA.

## **THE CHALLENGES AHEAD**

As we begin the process to reauthorize the CWA, we need to consider the ecological and human health dimensions of protecting our aquatic resources. Today's problems are very different than those of the past. In addition, our challenges involve recognizing that "water quality" goes well beyond the chemical water column. Rather, protecting and improving water quality must also address physical and biological integrity as well as the integrity of the surrounding watershed that is an integral part of the total ecosystem.

Although we have many challenges facing us, I would like to focus my testimony today on three particularly critical issues: first, the threats posed to our aquatic ecosystem that can be addressed only by focusing public and private efforts on geographically targeted watersheds, where the sources of impairment and the degradation they produce operate in close and dangerous proximity; second, the need for adequate funding to support State and local solutions and to implement federal requirements under both the CWA and the Safe Drinking Water Act; and third, water quality problems caused by wet weather flows, such as CSOs, storm water discharges, and polluted runoff from nonpoint sources.

### Watershed Management

The principal goal of the CWA is to protect and restore waterbody uses by ensuring their biological, chemical and physical integrity. As the water program has matured, we now have the tools and the understanding of ecosystems to expand our focus beyond a simplistic emphasis on chemical pollution. Therefore, EPA strongly supports what we call the "watershed protection approach," which is a way of promoting a more holistic, risk-based approach to the complex and often persistent problems in watersheds around the Nation. By focusing on the watershed as a whole rather than on specific sources within the watershed, we believe that we can address the watershed's problems more comprehensively, efficiently and effectively and at the same time take better advantage of the energy and resources of our public and private partners.

We can no longer assume that "national" solutions will solve all local problems. By adding a stronger geographically based approach to protecting our aquatic resources, we can ensure that solutions--shaped by the local community as well as by State and federal participants--are carefully tailored to address the unique circumstances facing each locality. This local tailoring can help ensure that we achieve the dual goals of adequately protecting our water resources and doing it in the most cost-effective fashion. We plan to continue working with USDA's Soil Conservation Service in delivering the watershed approach where watersheds are predominantly agricultural. As we build partnerships, we concentrate our resources on locally targeted problems, foster new, innovative approaches and

solutions, and promote implementation of these solutions through the empowerment of local stakeholders.

The watershed approach is not new to EPA and has been used effectively in several geographically targeted programs, including: the National Estuary Program (NEP), initiatives focusing on the Great Lakes, the Gulf of Mexico, and the Chesapeake Bay, and the Near Coastal Waters Program. For example, the Great Lakes Program establishes a partnership of the federal government and appropriate State, tribal, and international agencies to work together in remedying the problems facing the lakes, which together comprise 20% of the world's supply of fresh surface water. The Chesapeake Bay Program calls for EPA and other federal agencies, in concert with the Bay States, to implement programs to abate pollution for the protection and restoration of living resources in this wonderfully vigorous estuary--the largest in the U.S. Under the NEP, States nominate and EPA selects nationally significant estuaries threatened by pollution, development, or overuse. EPA, the States, local governments, interest groups, and the public jointly identify problems, and develop and carry out comprehensive management plans to protect these recognized estuaries. Our water quality standards program allows each State to tailor its water uses and criteria to meet its unique, local requirements. Yet these are only a start. We must evaluate the watersheds individually and let the people who depend on them tell us what solutions are appropriate. Here are several examples:

- ▶ In New England, the Blackstone River suffers from toxic contamination. As part of a watershed initiative, the Commonwealth of Massachusetts and the State of Rhode Island are working with local stakeholders to address the toxics problem, identified by the NEP Narragansett Bay Project as the largest single source of toxic pollutants to Narragansett Bay.
- ▶ In Louisiana, hydromodification has contributed to significant loss of wetlands, including bottomland hardwoods. Government officials and the agricultural community are working together to conduct reforestation activities.
- ▶ In Kansas, phosphorous loading threatens the Hillsdale Reservoir with eutrophication. Activities are underway to develop a system for managing the reduction of pollutants at their source.
- ▶ In California, Morro Bay suffers from sedimentation that, if not addressed, will fill the Bay in approximately 100 years. Agricultural and silvicultural best management practices are being implemented to address the problem.

While we are very encouraged by the progress demonstrated by these examples, I would like to point out that these do not yet reflect the "complete" watershed protection approach I envision. Some programs, such as the NEP, already have authority to comprehensively consider the whole suite of problems affecting a watershed, but do not have authority or resources to implement their plans. Other programs have resources but are only authorized to address specific impacts or sources. We need to bring these approaches together to attain integrated, ecosystem management. Nevertheless, each example mentioned above appropriately conceives the watershed as a whole and involves the stakeholders in the solutions, thereby embracing two of the critical concepts of watershed protection.

The Administration is moving forward even without new legislation to better support ecosystem management. To mention just a few such efforts, the Department of Interior intends to make ecosystems the focus of federal conservation policy; the Department of Agriculture's Forest Service has launched a new policy on ecosystem management; and its Soil Conservation Service has a new strategic plan that uses watershed management as a cornerstone for achieving "Total Resource Management." The Army Corps of Engineers, in its testimony today before this Subcommittee, describes how its approach to §404 permitting is consistent with watershed management approaches.

Watershed management practices can also help to preserve high-value uses that may apply to surface waters within the affected watershed. Some cities are using a system of pollution prevention measures to protect watersheds that serve not only as vital sources of drinking water but as productive habitat for fish and wildlife populations. For example, the City of Portland, Oregon, is protecting its public water supplies, along with habitat for the spotted owl through a written agreement with the U.S. Forest Service that includes restrictions on forestry operations and a public access to erodible terrain. These measures have enabled the City to ensure the safety of its drinking water sources without having to install an expensive filtration system. Innovative, cost-effective alternatives such as this exist in many situations, and we believe that our watershed management approach will help to foster them.

I believe the CWA generally provides EPA and the States with the authority we need to look holistically at the entire aquatic ecosystem. By focusing our attention on watershed management in the context of reauthorization, however, I would like to encourage Congress to promote this approach by: harmonizing, and where necessary, improving our ability to address the physical and biological, as well as chemical, integrity of our Nation's waters; emphasizing watershed-level ecological risk management; coordinating water quality standard reviews; consolidating planning and priority setting requirements under the Act; and modifying the timing of biennial water quality assessments and reporting under §305(b).

The watershed approach I have sketched focuses on carefully tailored, cost-effective solutions to all stresses on the watershed, including nonpoint source pollution, habitat degradation, wetlands loss, and threats to ground water. I believe that focusing on watersheds as a whole--in order to identify causes and effects of high-priority problems, and to develop effective, implementable solutions while at the same time maintaining strong national programs to protect the gains of the past--is essential to ensure that we succeed in restoring and protecting the Nation's aquatic resources. I would also like to point out that the application of the watershed approach does not imply a backsliding of current requirements. For example, national secondary treatment requirements would remain, and the focus would be on eliminating threats that are not avoided through its application.

Funding

In 1981, the federal government committed to a ten-year program of \$2.4 billion per year for financing the construction of municipal wastewater treatment facilities under the CWA's Title II Construction Grants Program. This level of funding was considered adequate to meet the estimated remaining highest priority needs for interceptor sewers, wastewater treatment plants, and sewer rehabilitation projects to correct infiltration and inflow problems. Other major infrastructure needs, such as correction of CSO pollution problems, were not fully considered in the 1981 plan. In 1987, Congress established the SRF program to provide long-term financial assistance for municipal wastewater infrastructure needs, and phased out the Title II construction grant program. The SRF program also provides support for nonpoint source and estuary management activities. A total of \$18 billion was authorized for these two programs through fiscal year 1994, principally to assist municipalities with their remaining municipal sewerage needs and to start to address the more recently identified needs such as CSO correction.

The transition from the Title II construction grant program to the Title VI SRF program has gone well. All States now have approved programs and are receiving capitalization grants. Over \$7 billion dollars of federal capitalization funds and \$6 billion of State matching funds and bond proceeds have been made available for needed waste water projects. More than 1300 municipalities have received low interest loans through the SRF. Approximately 70% of the loan assistance

provided to date has been for financing the construction of secondary and advanced wastewater treatment plants. Another 25% has been used for sewer construction, with the remaining 5% available for storm water and nonpoint source management and other projects.

Although EPA has not yet published data from the 1992 survey of the States regarding needs for municipal wastewater treatment, preliminary estimates confirm that needs continue to grow. Total documented needs have increased in constant dollars from \$90 billion in 1988 to \$108 billion in 1992. In general, this increase is caused by one or more of four factors: (1) continued population growth and redistribution; (2) deterioration of older sewers and other facilities; (3) new requirements to protect water quality; and (4) newly eligible activities. For example, advanced treatment needs have grown by \$10 billion in constant dollars because secondary treatment controls have proved insufficient to meet water quality standards. Documented needs for CSOs have increased by \$5 billion largely because the costs of CSO controls are better understood today. The \$3 billion increase for new collectors is attributable to population growth and redistribution since the last survey.

As daunting as these figures are, there is reason to believe that some needs are seriously underestimated. EPA, States, and localities are still determining how to meet CWA requirements for CSOs and storm water management; therefore, the documented needs do not yet fully reflect the costs of correcting these problems. In addition to sewer and wastewater treatment construction needs, States reported

information on two new significant categories of needs prompted by new mandates of the 1987 amendments: storm water pollution management and nonpoint source pollution control. The estimates reported for these two categories in the 1992 survey are in the range of \$10 billion in constant dollars. And, we have no estimates at all regarding the funding needed for aquatic ecosystem protection and restoration.

In general, States and local communities cannot afford these activities without continued federal support. Because of its revolving fund characteristic, over a twenty year period the SRF can fund three times the value of projects that could be funded by outright grants. Consequently, while \$18 billion was authorized in 1987 to end federal wastewater assistance, the President is seeking a new authorization for clean water State revolving funds to help communities address these new storm water needs, as well as traditional wastewater needs. The President's investment proposal would provide \$7.2 billion in capitalization grants between fiscal year 1994 and fiscal year 1997 to capitalize these state revolving funds.

The Administration is sensitive to the special needs of small and rural communities. We estimate that small communities (defined as communities with systems that serve fewer than 10,000 people and that have a flow of less than 1 million gallons of wastewater per day) have an unmet need of over \$13 billion for wastewater treatment facility construction and improvements. This figure

represents 12% of the total documented national wastewater treatment construction need.

Since 1972, small communities have received 24% of federal funding under the construction grants program, and 18.5% of the funding under the SRF program. In general, small communities report the same mix of needs as the Nation as a whole. One exception is that small communities report a greater need for new collector sewers than reported for the Nation as a whole. This comparatively large need reflects in part the communities' need to replace significant numbers of failing septic systems, and greater distances between dwellings that are common in rural communities. Small rural communities with wastewater needs also can turn to the Rural Development Administration (RDA) for financial assistance. In fact, the President has proposed significantly increased funding through the Rural Development Administration (RDA). The President's investment proposals provide increases of \$740 million in grants and \$1.3 billion in loans for the period from fiscal year 1994 through fiscal year 1997.

#### Wet Weather Flow Issues

##### Storm Water

Storm water is a major program area in which EPA and the States together have made some important progress. As you know, the 1987 amendments to the CWA required the Agency to establish a two-phased regulatory program to address the discharge of contaminated storm water to our Nation's waters. States have

reported that storm water discharges from diffuse sources are responsible for approximately one third of remaining assessed surface water impairments in lakes and estuaries.

With the promulgation of the Agency's Phase I storm water regulations in November 1990, implementation of the program is well underway. Over 100,000 industrial activities and more than 250 municipalities and counties are covered under Phase I. To date, tens of thousands of facilities and storm water activities are covered under general NPDES storm water permits. EPA and the States are now beginning the more difficult process of assuring that necessary controls are implemented as required by those permits. We are in the process of developing individual NPDES permits for municipalities and counties covered under Phase I. Both EPA and the States have placed a very heavy emphasis on pollution prevention and implementation of best management practices as the first step in implementing storm water programs.

While Phase I is a major challenge and much more work remains, Phase II of the storm water program represents an even larger undertaking with as many as one million additional commercial, retail, and light industrial activities potentially affected. Also potentially included in this Phase II group are municipalities under 100,000, as well as emerging growth and new development areas around existing urban centers that are not covered under Phase I. A number of issues must be addressed in connection with the implementation of Phase II, notably whether certain dischargers should be targeted for permitting before others, the possible

menu of regulatory and nonregulatory mechanisms that could be used to address high priority sources, and appropriate deadlines.

We are presently developing different options for a Phase II strategy that will provide for the most effective targeting of high risk sources, identify appropriate roles for federal, State and local government, and strike the right balance between pollution control under the nonpoint source program and the issuance of permits under the NPDES program. We think potential Phase II sources outside urbanized areas may best be addressed under an expanded and strengthened nonpoint source program.

#### **Combined Sewer Overflows**

Another remaining point source problem is combined sewer overflows (CSOs). More than 1100 cities (85 percent of which are located in the Northeast and Great Lakes areas) which serve a total population of 43,000,000, have antiquated combined sewer systems. During wet weather events, these uncontrolled combined sewer systems discharge raw sewage, commercial and industrial wastes and storm water. States' water quality assessments have shown CSOs to contribute to water quality impairments, beach closures, fish kills and shellfish bed closures.

In 1989, EPA took steps to address the CSO problem by issuing a CSO Strategy calling for States and municipalities to focus greater attention on controlling CSO discharges such that waters impaired by CSOs would attain water

quality standards. EPA has recently circulated a new draft *Combined Sewer Overflow Control Policy* that provides additional guidance on meeting the 1989 CSO Strategy. Through negotiated dialogue with State, environmental, and municipal representatives, the draft policy developed a framework for future action. Public comment has been supportive of the draft policy. The draft policy contains provisions for developing appropriate, site specific NPDES permit requirements for all combined sewer systems that overflow as a result of wet weather, including requirements to ensure attainment of water quality standards, and it announces an enforcement initiative to require immediate elimination of overflows that occur during dry weather. The existing statute appears to provide sufficient legal authority to implement the draft policy and to bring CSOs into compliance with statutory requirements, including the attainment of State water quality standards.

#### **Polluted Runoff**

Polluted runoff, which is the contaminated runoff from agricultural lands, grazing and forestry operations, and those urban areas and commercial activities not regulated by NPDES permits, is one of our most vexing water quality problems. Siltation, nutrients, and pathogens are the most common pollutants causing the degradation. In addition, polluted runoff stemming from increased population growth in sensitive ecosystems, such as in coastal areas and wetlands, also poses a serious threat to waterbody integrity. Much of the most serious pollution comes from agricultural runoff, including crops, grazing, and animal waste.

Polluted runoff most commonly results in damage to natural ecosystems, including alteration and destruction of habitats. Fertilizer use, and other activities such as faulty septic systems, inadequate waste water treatment facilities, industry, feedlots, and pesticide use have also been linked to contamination of ground water. These problems are particularly acute in rural areas of intense agricultural activity where ground water is used as the primary source of drinking water for 95% of the population.

We already possess some tools to help. Section 319 of the CWA, enacted in 1987, required States to assess their nonpoint source problems and to develop programs for managing nonpoint source pollution, backed by federal grants. The Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) provided a somewhat stronger approach for coastal areas in 29 States and territories, centering on new State programs to implement the best available management measures economically achievable for categories of nonpoint sources. This program is administered jointly by EPA and NOAA and appears to be well on its way. The 1990 Farm Bill also helps, especially through its water quality and conservation compliance incentives program.

In general, pollution prevention is the preferred approach for addressing the problem of polluted runoff. Several prevention-based techniques are available:

- ▶ Use of various land management practices and techniques that keep sediment in place where construction, crop production, grazing or forestry cause land disturbance;

- ▶ Consideration of alternative processes or practices that avoid degradation and destruction of critical habitats;
- ▶ Restriction of erosion-inducing activities in sensitive areas;
- ▶ Changes in pesticide, fertilizer, and water application methods, rates, and timing to maximize effectiveness to target species and minimize waste of the item applied;
- ▶ Use of more environmentally benign pesticides, plant strains with natural resistance to pests, and low water use crops and vegetation; and
- ▶ Improved pesticide storage, handling, mixing, and loading practices to reduce the likelihood and impact of spills.

The CWA recognizes that States and local governments should play major roles in addressing polluted runoff because of its diffuse nature and because of the need for broad-based teamwork to identify and implement the solutions. Over the last four years, we have provided both technical assistance and over \$190 million in financial assistance to help States with approved nonpoint management programs provide technical assistance, education, and implementation of best management practices, both statewide and in priority watersheds.

On top of the \$50 million per year currently being appropriated for nonpoint source grants, the President is proposing to invest an additional \$180 million in nonpoint source grants between fiscal years 1994 and 1997. These investments would help restore watersheds currently being degraded by polluted runoff.

We believe that we and our many partners are making progress with these and other tools. Based on my experience in Florida, however, I believe that State and federal programs alone will not work. Local initiative, commitment and

incentive are crucial to creating the sense of volunteerism and long-lasting change that will be necessary for success.

At this stage, I believe there are several basic principles that should guide our discussions of the problem of polluted runoff. Specifically:

- ▶ While §319 nonpoint management programs provide a good starting point, stronger measures are needed.
- ▶ A stronger watershed focus should be brought to bear so that farmers, foresters, and other stakeholders can better understand the connection between what they do on the land and the benefits they can help to bring to water quality.
- ▶ Where feasible, pollution prevention should be the approach of first choice for addressing polluted runoff.
- ▶ Voluntary approaches should remain the primary focus, but backup enforcement requirements at the State and federal levels are needed when voluntary approaches fail to produce adequate incentives and necessary environmental improvements.
- ▶ EPA should help to set clearer performance expectations and technical baselines for nonpoint source controls and management practices. We must improve our scientific understanding of the transport, impacts, and means to control problems such as nutrient and siltation pollution, and improve the tools to address them. In this effort, we will need to work closely with other federal agencies, such as NOAA, the U.S. Department of Agriculture and the Departments of Interior and Transportation.
- ▶ We should encourage innovation where appropriate, including public-private partnerships and greater use of market-based incentives. Federal funding should support State and local actions but should not be a prerequisite to accelerating progress.

## CONCLUSION

Reauthorization of the CWA provides us with a valuable opportunity to consider new and innovative solutions to complement the existing array of successful tools and programs we already have to protect human health and the environment. We believe that adopting a watershed protection approach to protect the biological and physical, as well as the chemical, integrity of our Nation's waters is very important. Similarly, we recognize that we must increase our emphasis on pollution prevention as the most practical and cost-effective means of meeting the goals of the Act. In addition, in concert with a strong point source program, we must focus considerably more attention on the sources of polluted runoff and wet weather flows; we cannot forget that these pollution sources contribute heavily to the persisting impairments our waters experience. We must undertake to streamline the process of administering and enforcing the CWA. We must consider how to better address ground-water protection. And, finally, we must help ensure that funding is available to States and municipalities to enable them to execute the responsibilities and obligations that the CWA entrusts to them.

I recognize that I have described a large task, but our Nation's waters issue us a stark challenge that we cannot ignore, except at our own cost. I believe you share with me a respect for the purity of our streams, the diversity of life in our estuaries, the high productivity of our wetlands, the dynamic interplay of forces in our watersheds, and the safety of our drinking water. Therefore, I look forward to

working with you, Mr. Chairman, this Subcommittee, the Members of Congress and their staff, our sister federal agencies, State and local governments, and industry and environmental groups to meet this challenge.

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**DEPARTMENT OF THE ARMY  
OFFICE OF THE ASSISTANT SECRETARY OF THE ARMY  
(CIVIL WORKS)**

**COMPLETE STATEMENT OF**

**G. EDWARD DICKEY  
ACTING ASSISTANT SECRETARY OF THE ARMY  
(CIVIL WORKS)**

**BEFORE THE  
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT  
HOUSE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION  
U. S. HOUSE OF REPRESENTATIVES**

**MAY 5, 1993**

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Mr. Chairman, I am G. Edward Dickey, Acting Assistant Secretary of the Army (Civil Works). I am pleased to be here today to discuss the Department of the Army Regulatory Program (Regulatory Program) and other wetland activities of the Army Corps of Engineers, (Corps), as requested in your March 24, 1993, letter. With me today is Mr. Michael L. Davis, my Assistant for Regulatory Affairs. After some background information about the Regulatory Program, I will focus on the topics you identified as being of interest to the subcommittee.

**OPENING COMMENTS**

Let me say at the outset that the Regulatory Program and other wetlands related activities are important missions for the Corps. The Regulatory Program provides a vital service of protecting our Nation's valuable aquatic resources. The Office of the Assistant Secretary of the Army for Civil Works, which oversees the Corps, and the Corps leadership are committed to protecting these resources, including wetlands. This commitment is reflected in the makeup of the over 1000 professionals in the Regulatory Program, approximately 70 percent of which have natural science degrees -- many with advanced degrees in biology or ecology.

The Army's philosophy for administering Section 404 of the Federal Water Pollution Control Act (FWPCA) is based on two fundamental principles. First, we must

acknowledge our environmental protection responsibilities -- the FWPCA and our implementing regulations require the Corps to give great weight to environmental concerns, including wetlands protection. Second, we must administer the program in an efficient manner that avoids unnecessary regulatory burdens on the public. For both principles, the Army, working with other Federal agencies, has taken a leadership role in implementing provisions for improving the Regulatory Program. We believe that the recent initiatives discussed later in this testimony have enhanced program administration and improved environmental protection.

We continue to encourage Corps permit decision-makers to use the flexibility allowed by our regulations to make decisions that reflect good common sense in terms of the environment and the general public interest. We have also increased efforts to articulate to the public information about how the program operates. We hope this effort will allay many of the fears and misconceptions about the Regulatory Program and wetlands protection in general. Above all, we are striving to improve the efficiency of the program at every level. Working with Corps Headquarters and EPA, we are evaluating current policies, priorities and workload to identify appropriate levels of funding and regulatory personnel. Corps District Engineers have followed this lead by making the program a priority within their respective Districts.

## REGULATORY PROGRAM BACKGROUND

The primary Army Corps of Engineers regulatory authorities are:

- Sections 9 and 10 of the Rivers and Harbors Act of 1899, which prohibits the obstruction or alteration of navigable waters of the United States without a permit from the Secretary of the Army (33 U.S.C. 401, 403);
- Section 404 of the FWPCA, which requires a permit from the Secretary of the Army for any activity involving the discharge of dredged or fill material into waters of the United States (33 U.S.C. 1344); and
- Section 103 of the Marine Protection, Research, and Sanctuaries Act, which prohibits the transportation of dredged material for the purpose of dumping such material in the ocean, without a permit from the Secretary of the Army (33 U.S.C. 1413).

About 40 percent of the 15,000 individual permit applications submitted to the Corps each year require evaluation only under Section 10; 30 percent involve both Section 10 and 404; and 30 percent involve Section 404 only. Of the approximately 15,000 standard individual permit applications evaluated by the Corps each year, about 10,000 are issued and 500 denied. The remaining approximately 4,500 applications either qualify for authorization under a general permit, are withdrawn by the applicant, or are canceled by the Corps when the applicant fails to provide information required for a decision. In addition to individual permits, the Corps verifies authorization of approximately 40,000 minor activities each year under the terms and conditions of regional and nationwide general permits. We estimate that over 40,000 additional activities are completed each year under the terms and conditions of general permits that do not require reporting.

Approximately 92 per cent of all permit evaluations (i.e., both individual and general permits) are completed in less than 60 days. Most of those completed in less than 60 days are general permit evaluations and those individual permit applications that are not complex and/or controversial. About 50 percent of the individual permit applications are completed in less than 60 days, with an additional 25 percent decided in less than 120 days, and the remaining 25 percent may take up to one year, or in rare instances more than a year, to complete. Individual applications that involve complex projects or sensitive environmental issues usually require more than 60 days to reach a decision.

Section 404 applications are evaluated to ensure compliance with the Section 404(b)(1) Guidelines, which provide criteria for evaluating the potential unacceptable adverse impacts of the proposed activity on aquatic resources. The Guidelines, which were promulgated in December 1980 (40 CFR, Part 230) by the Environmental Protection Agency (EPA), in conjunction with the Army, contain the substantive environmental criteria by which the Corps reviews all Section 404 permit applications. Corps permits are issued under Section 404 only when the work involved complies with the Guidelines and on balance is not found to be contrary to the public interest.

As the agency responsible for the day-to-day operation of the Regulatory Program, the Corps must act as the project manager and make final permit decisions. This role includes the responsibility for reviewing Section 404 permit applications to determine compliance with the Corps permit regulations, the Section 404(b)(1) Guidelines, Section 7(a)(2) of the Endangered Species Act, and numerous other statutes. While the final decision regarding the permit application, including a determination of compliance with the 404(b)(1) Guidelines, rests solely with the Corps, the Federal and state resource agencies have an important role in the Regulatory Program. The Corps must consider fully comments received from other agencies when determining whether to issue the permit, to issue the permit with conditions and/or mitigation, or to deny the permit.

The Regulatory Program also includes an enforcement arm which investigates some 6,000 reported violations annually and inspects permitted activities for compliance with the terms and conditions of issued permits. In addition to permit evaluations and enforcement, the Corps conducts approximately 25,000 jurisdictional determinations each year, in response to the request of citizens seeking to know if permits are required for their proposed projects.

### RECENTLY COMPLETED ACTIONS

Always of concern to those involved with the Regulatory Program has been the complexity of the process used to evaluate permit applications. The Army has devoted considerable effort to streamlining the regulatory process in order to avoid unnecessary burdens on the regulated public, while still retaining a high degree of environmental protection. The thrust of this effort was to make administrative changes in the Regulatory Program that reduced delays, duplication among Federal and state agencies, and impediments to timely permit decisions while leaving the environmental requirements of the program intact. We believe that recent regulatory actions have improved the program.

Measures recently completed include the following: issuance of guidance describing Federal agency roles and responsibilities; establishment of shorter time limits in the Section 404(q) elevation process and focusing the elevation process on projects that involve aquatic resources of national importance; issuance of guidance on the Intermodal Surface Transportation Efficiency Act of 1991; implementation of the 1987 *Corps of Engineers Wetlands Delineation Manual* (1987 Manual); and increases to the Corps regulatory staffing levels. A more detailed discussion of these actions follows.

**Regulatory Guidance on Agency Roles:** A consistent criticism of the Regulatory Program in the past was that the regulated public did not have a clear understanding of which Federal agency was responsible for making Section 404 regulatory decisions. In May 1992, the Corps issued a Regulatory Guidance Letter (RGL) which emphasizes the role of the Corps in actively managing permit evaluations and making permit decisions. This guidance also recognized the roles and responsibilities of other Federal agencies involved in this program. The Regulatory Program must operate in an efficient manner in order to protect the aquatic environment and provide fair, equitable, and timely decisions to the regulated public. Clear leadership and a predictable decision-making framework enhances the public's acceptance of the program and allows the program to meet the important objective of effectively protecting the Nation's valuable aquatic resources. Implementation of this guidance has helped to streamline the permit process by minimizing delays, while maintaining a meaningful opportunity for substantive

participation by all relevant Federal agencies. While the RGL clearly states that the Corps is the Federal permit decision-maker and project manager for the Regulatory Program, it also reiterates that the Corps must consider all timely, project-related comments from other Federal agencies when making regulatory decisions. Consistent with this guidance we continue to encourage the Corps and other resource agency field offices to maintain and improve their working relationships.

**Section 404(q) MOAs:** In December of 1992 we completed an initiative to revise and improve the Section 404(q) Memoranda of Agreement (MOAs) between Army and the EPA, the Department of Commerce (National Marine Fisheries Service) and the Department of the Interior (Fish and Wildlife Service). The MOAs were entered into under the general authority of Section 404(q) which calls upon the Army to enter into interagency agreements "to minimize, to the maximum extent practicable, duplication, needless paperwork, and delays in the issuance of Section 404 permits." Prior to adoption of the 1992 MOAs, the Corps and the resource agencies operated under MOAs signed in 1985 and 1986. Experience with these MOAs identified certain problems. For example, the previous MOAs placed no time limits on informal consultations which often resulted in avoidable delays in reaching permit decisions.

The purpose of the 1992 MOAs is to establish a formal, more disciplined process that facilitates more timely permit decisions in an efficient manner while giving the resource agencies assurance that their views will be given full consideration. The MOAs provide a mechanism for resolving policy issue disagreements without delaying individual permit decisions, as well as a mechanism which allows the resource agencies to request elevation of a Corps individual permit decision for review by the Assistant Secretary of the Army for Civil Works, where the permit would have "unacceptable adverse effects to aquatic resources of national importance." The revised MOAs established procedures which should minimize the 404(q) process delays applicants have experienced in the past. The revised MOAs have more rigorous time frames for permit elevation and require the concurrence of the resource agency's highest level regional management before the elevation process can be initiated. We believe that the new MOAs provide for an avenue of higher authority review when aquatic resources of national importance are involved, while recognizing the Corps role as Federal permit decision-maker and the need for timely decision-making while protecting aquatic resources.

**Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA):** In December of 1991, ISTEA went into effect to renovate the Nation's transportation infrastructure. Recognizing the important role of the Regulatory Program in the regulation of transportation projects that affect aquatic resources, we worked with the Department of Transportation and the EPA to identify ways to eliminate unnecessary regulatory burdens and delays. In May of 1992, the Corps, EPA and Federal Highway

Administration issued guidance to our field staff, which provided that transportation projects receive expeditious review and timely decisions. The guidance recognized, however, the importance of environmental protection and the necessity to comply with all legal, including regulatory requirements. The guidance also endorsed the continued use, where appropriate, of general permits and mitigation banking for transportation projects as a way to reduce delays while protecting and enhancing environmental resources, in particular wetlands.

**1987 Wetlands Delineation Manual:** Pursuant to the 1992 and 1993 Energy and Water Development Appropriations Acts, since August 17, 1991, the Corps has been using its 1987 Manual rather than the controversial 1989 *Federal Manual for Identifying and Delineating Jurisdictional Wetlands* (1989 Manual). The 1993 Act included language that requires the Corps to continue to use the 1987 Manual until a final wetlands delineation manual is adopted. Prior to 1989, the 1987 Manual was used on an optional basis by most Corps field offices. Both manuals describe the technical criteria, field indicators, and other sources of information necessary to make consistent wetland jurisdictional determinations. As a result of the current mandatory implementation of the 1987 Manual, we estimate that FWPCA wetlands jurisdiction may be slightly more than it was prior to 1989, but less than it was under the 1989 Manual. We believe that the delineations made with the Corps 1987 Manual accurately reflect wetland conditions. On January 4, 1993, EPA agreed to use the 1987 Manual. We expect the 1987 manual to be used until the National Academy of Sciences completes the study discussed later in this testimony.

**Resource Increases:** The Army Regulatory Program has received vital increases in funding during the past few years. As a line item in the Corps overall budget since 1987, the program has had high visibility. These increases in funding have been well spent on increases in our overall staffing to help keep pace with a continually increasing workload. A 1990 Corps study recommended a 25 percent increase in staff to improve service to the public. A plan to increase staffing was initiated in Fiscal Year 1991. By the end of Fiscal Year 1992, regulatory staff had increased 20 percent (to approximately 1100 FTEs) over Fiscal Year 1990 levels. We anticipate that funding for Fiscal Year 1994 will allow the Corps to maintain these levels of staff and services to the public.

## ON-GOING INITIATIVES

Complex ecological, engineering, economic, and legal issues make the Section 404 program challenging and inherently controversial. Despite the program's complexity and the heavy workload, we believe that significant progress has been made and that the regulated public's concerns have diminished over the past year. We firmly believe that

the program is now on a solid course. For example, the permit application backlog has been reduced in the last year from 7700 to 6800. In addition, the increases in our regulatory staff are only now beginning to provide program benefits because regulatory personnel generally need at least a year of training and experience to become effective project managers. We are continuing to work with other Federal agencies to develop and pursue additional administrative changes to improve the Regulatory Program from both an operational and environmental protection standpoint. A discussion of some of our on-going initiatives follows.

**Wetlands Delineator Certification and Training Program:** Section 307(e) of the Water Resources Development Act of 1990 authorized the establishment of a program for the training and certification of individuals as wetland delineators. This Act also required the Corps to carry out demonstration projects in Corps districts prior to establishing the Wetland Delineator Certification Program (WDCP) nationwide. The intent of the WDCP is: 1) to improve the quality and consistency of wetland delineations, and 2) to streamline the regulatory process by developing procedures for expediting consideration and acceptance of delineations performed by certified delineators. WDCP demonstration projects, which are in progress in the states of Washington, Maryland, and Florida, are being administered by the Corps Seattle, Baltimore and Jacksonville districts, respectively. Other Federal and state agencies are working with these districts on this important project. These districts began accepting applications for certification on February 1, 1993. To obtain certification, individuals must meet certain minimum education and experience requirements, as well as pass written and field examinations.

**Flexibility Regulatory Guidance Letter:** Each proposed project requiring a Section 404 permit must be in compliance with the Section 404(b)(1) Guidelines. The Army remains committed to the "sequential" approach to mitigation as articulated in the 1990 Army/EPA Mitigation MOA (i.e., in general, impacts must first be avoided to the extent practicable, then minimized, and finally all remaining impacts must be compensated for to the extent appropriate and practicable). In this regard, an integral part of the Guidelines' requirements involves a determination that the project represents the least environmentally damaging practicable alternative. Compliance with this provision of the Guidelines has engendered considerable controversy. To address this concern the Corps and EPA are developing guidance to clarify the appropriate level of review that should be given to permit applications when making determinations of compliance with the Guidelines' alternative analysis. As appropriate, the Corps will coordinate with the Fish and Wildlife Service and the National Marine Fisheries Service in the development of this RGL. Our basic approach is to ensure that the level and detail of the alternatives analysis is commensurate with the value of the aquatic resource to be affected. The Guidelines do not contemplate that the same intensity of analysis will be required for all types of projects but instead envision a correlation between the scope of

the evaluation and the potential extent of adverse impacts to the aquatic environment. Our objective is to complete the guidance on this issue within the next two months.

**Wetlands Mitigation Banking:** First, with regard to wetlands mitigation banking we believe that it can play an important role in the regulation and protection of wetlands. The 1990 Army/EPA Mitigation MOA states: "Mitigation banking may be an acceptable form of compensatory mitigation under specific criteria designed to ensure an environmentally successful bank." While mitigation banking cannot obviate the requirement to apply the sequential approach to mitigation, it can be a valuable form of compensatory mitigation. Because mitigation banks are generally created in advance of impacts associated with a particular permitted project, the bank can reduce temporal impacts and provide a higher degree of certainty that wetlands functions will be compensated for. The Corps and EPA are developing Section 404 guidance that will provide procedures and guidelines for establishing, evaluating, and withdrawing credits from a wetland mitigation bank. In addition, the Corps Institute for Water Resources, located at Fort Belvoir, Virginia, is preparing a planning study on mitigation banking. The first initiative was to determine how many mitigation banks are in existence and the number of mitigation banks planned. As of July 1992, there were 46 existing mitigation banks and an additional 64 were identified as "proposed." The majority of these existing banks were established by State Departments of Transportation and Port Authorities. The private sector has been slow to establish mitigation banks due to: 1) the large capital investment required and; 2) the uncertainty regarding use of mitigation banking in the Regulatory Program. It is anticipated that once the mitigation banking guidance is issued, some entrepreneurs may begin establishing mitigation banks. Mitigation banks should enable the government to move more effectively toward the goal of "no net loss" of wetlands functions and values. In addition, banking may allow larger more productive wetland areas of higher quality to be established through restoration projects. If implemented with clear expectations and conditions, mitigation banking can produce a win-win situation which we strongly support.

**Programmatic General Permit Guidance:** Pursuant to Section 404(e)(1) of the FWPCA, the Corps has the authority to issue general permits for any category of activities that are similar in nature and result in no more than minimal adverse effects on the environment, either individually or cumulatively. General permits can be issued on a national, regional or programmatic level. We are currently preparing a RGL on the use of programmatic general permits (PGPs). As appropriate, the Corps will coordinate with the Fish and Wildlife Service and the National Marine Fisheries Service in the development of this RGL. PGPs, which operate in conjunction with a State or local regulatory program that protects the aquatic environment in a manner equivalent to the Army Regulatory Program, are designed to reduce unnecessary duplication between Federal and State or local regulatory programs. The RGL will identify the limitations

that Corps districts should place on PGP's to ensure that they protect the environment and other aspects of the public interest. Our encouragement of the use of PGP's should not be viewed as a method to allow the Corps to excise itself from the Regulatory Program or simply to reduce workload. We are recommending increased use of PGP's only in situations where existing State, regional or local authorities provide for strong environmental protection. Such PGP's will reduce unnecessary duplication and allow the Corps and other Federal agencies to focus better their resources on other activities. In particular, the Corps hopes to enhance its efforts in ensuring compliance with permit conditions.

**Regulation of Excavation Rule:** On June 16, 1992, the Corps and EPA issued a proposed rule that would clarify and improve the Regulatory Program. The proposed rule would make three changes to the Section 404 regulations. One would clarify the definition of "discharge of dredged material." Another would clarify when the use of pilings in waters of the United States should be regulated. The third would codify that prior converted croplands are not regulated under the FWPCA. The first two changes were proposed in accordance with a settlement agreement resolving a Section 404 lawsuit (*North Carolina Wildlife Federation v. Tulloch*).

These proposed changes would close a loophole that has allowed some project proponents to undertake activities that destroyed or degraded wetlands without being subject to regulation under Section 404. At the same time, the rule would ensure that some 60-million acres of prior converted cropland remain outside the scope of the Section 404 program.

The first proposed change revises the definition of "discharge of dredged material" to clarify that the phrase includes discharges associated with mechanized land clearing, ditching, channelization and other excavation activities when those activities destroy or degrade wetlands or other waters of the United States. Discharges associated with activities that do not destroy or degrade waters of the United States will not require a Section 404 permit. This rule will not affect the existing exemptions for normal farming, ranching and silviculture practices (Section 404(f)).

The agencies' current definition of "discharge of dredged material" excludes minimal, incidental soil movement occurring during normal dredging operations. Application of this language in the field has sometimes led to inconsistent results. For example, some small excavation discharges resulting from land-clearing and drainage in wetlands have been excluded from regulation, even though the discharge was part of an activity that had significant effects on wetlands or other waters of the United States.

Consistent with the FWPCA, this proposal will regulate only those activities that involve a discharge of dredged material into waters of the United States. We believe that the proposed changes will improve regulatory consistency, equity, and wetlands protection.

The second proposed change incorporates into the Section 404 regulations existing Corps guidance on when the placement of pilings should be regulated. In the past, some development projects have been constructed on pilings in order to avoid Section 404 regulation. Under the proposed rule, the placement of pilings would be regulated under Section 404 when such placement has the effect of a discharge of fill material.

The third proposed change would incorporate into FWPCA regulations Corps guidance issued in September 1990 stating that prior converted croplands are not waters of the United States and, as a result, are not regulated under the FWPCA. Prior converted croplands are areas that, prior to December 23, 1985, have been cropped and otherwise manipulated to the extent that they are inundated with water for no more than 14 days during the growing season. This proposed change would assure consistency with provisions of the Food Security Act, as amended.

**National Academy of Sciences Wetland Study:** As required in the Departments of Veterans Affairs and Housing and Urban Development, and Independent Agencies Appropriations Act of 1993 (PL 102-389), the EPA is funding the National Academy of Sciences (NAS) to conduct a study of the scientific basis for wetlands identification and delineation. The NAS study will include an evaluation of the scientific validity and practicability of existing wetlands delineation manuals. The Corps is a member of an interagency liaison group that will provide background information, reference materials, and logistic support to the NAS study committee. We expect that the NAS will take at least 18 months to complete its study. In the interim, the Corps and EPA expect to continue to use the Corps 1987 Manual for identifying and delineating wetlands subject to regulation under Section 404.

**Watershed Management:** As we look toward the future, management of the Nation's water resources on a watershed-by-watershed basis will likely become the strategy of choice. The Regulatory Program provides several tools that may be used where a holistic watershed management approach is chosen. Special area management plans or advanced identifications, general permits, and mitigation banks, are well-suited for this type of effort. Special Area Management planning is intended to help steer development activities away from environmentally sensitive aquatic resources, including wetlands. The Corps works closely with EPA on EPA's related program, the Advance Program Identification of Wetlands. Both programs are proactive attempts to identify important areas in advance of development activity, so environmental conflicts can be

minimized and responsible economic growth can proceed unimpeded. Where there are state or local interests willing to conduct the advanced planning, tailor local laws and regulations to properly protect aquatic resources, identify potentially developable areas, and identify aquatic ecosystems that should be preserved or restored, the Corps stands ready to help make those plans implementable in the most efficient and effective manner consistent with necessary environmental protection. The Corps, working with EPA and other Federal agencies, is prepared to use these regulatory tools to reduce duplication with state and local agencies and to effect restoration of degraded portions of the watershed through required mitigation for activities permitted within the watershed. This type of watershed management strategy will improve the Regulatory Program by providing a more comprehensive approach to aquatic resource protection. This will directly benefit the public through increased predictability and reduced delays associated with permit evaluations. Such a strategy, however, will only be successful if there is a spirit of cooperation that leads to dedicated participation by all parties: Federal, state, local and private landowners.

### **OTHER ARMY CIVIL WORKS WETLAND ACTIVITIES**

The Corps civil works environmental and wetlands activities have evolved over recent years into a coherent program with a unified philosophy -- the restoration and preservation of significant environmental resources consistent with the dual fiscal principles of efficiency and cost-sharing. These activities are carried out under the Section 1135 Program (project modifications for improvement of the environment), the Beneficial Uses of Dredged Material Program, the Coastal Wetlands Planning, Protection and Restoration Act (PL 101-646) and other wetlands restoration activities. In addition, the Corps is working with eleven Federal agencies, the coastal states and over one-hundred non-governmental organizations in the Coastal America Program, a far-reaching cooperative effort to improve the coastal environment, a subject which I will discuss first. Finally, the Corps is pursuing a comprehensive Wetlands Research Program to support its operations and maintenance mission.

**Coastal America:** The Army has cooperated closely over the last two years with the Departments of Commerce and the Interior, and the Environmental Protection Agency to develop the Coastal America initiative. Because of this initiative's potential, additional departments and agencies of the Federal government, including Department of Transportation, expressed interest and are participating. A senior Corps employee has been detailed to serve as the Deputy Director of Coastal America.

The initiative provides for joint actions to address three major natural resource problems along the coasts of the United States: 1) contaminated sediments; 2) loss and/or

degradation of coastal habitats, including wetlands; and 3) pollution from non-point sources. The cooperation among the agencies and states achieves synergy through the coordinated application of existing authorities and resources. Site-specific problems are addressed on a watershed basis through the cooperative efforts of the participating Federal, state, local agencies and non-governmental organizations.

The Coastal America agencies have examined coastal problems in seven geographic regions: Alaska; Pacific Northwest; Southwest; Gulf of Mexico; Southeast; Northeast; and the Great Lakes. Within each region, site-specific problems were identified through the active involvement of Corps districts working in concert with each of the participating Federal agencies on regional implementation teams. In Fiscal Year 1992, the partnership agencies initiated 24 joint projects that address one or more of the three major natural resource problem areas identified in their regions. These projects are valued at nearly \$10 million, one-half of which is provided by non-Federal project sponsors. These projects were not specifically funded under the Coastal America initiative, but were implemented under existing program authorities of the participating agencies. Upon completion of these 24 projects, nearly 5,000 acres of wetland habitat will have been restored, over 200 miles of spawning streams will have been opened by removing man-made restrictions, 50 farms will have implemented non-point source controls, and critical habitat for over 10 endangered species will have been protected. These projects represent the beginning of a new way of doing business -- one in which the combined talents and assets of the Federal, state, and local governments and private interests can effectively solve both immediate and long-term environmental problems. The Corps has the lead on six of the twenty-four projects, all of which address wetland restoration, and is an active participant on many of the others.

**Section 1135 Program:** This program was authorized by WRDA 86, as amended, and provides for modifications to existing Corps projects to improve the environment. Since receiving initial program appropriations in FY 1991, 44 studies have been initiated, seven of which have resulted in construction approvals. Two additional studies receive individual appropriations. One project approved for construction, closure of the "New Cut" at Savannah Harbor has been completed. This project modification will help restore approximately 4000 acres of coastal fresh water marsh. Several proposed Section 1135 modifications have been incorporated into the Coastal America initiative. Two of these are among the modifications approved for construction. One, Salt Bayou at McFaddin Ranch, Texas, will enable improved water regulation to preserve and restore approximately 60,000 acres of fresh to brackish wetlands along the Gulf Intercoastal Waterway. The second approved modification will use dredged material from the Calcasieu River to create marsh substrate in the Sabine National Wildlife Refuge, La.

Many of the proposed Section 1135 modifications have been formulated to respond to needs identified in the North American Waterfowl Management Plan, including the management of wetlands to restore waterfowl habitat. Although most of these projects are relatively small in scope, their cumulative effect demonstrates that the Corps is using its engineering expertise to devise effective, efficient solutions to environmental problems.

**Beneficial Uses of Dredged Material:** The Corps has informally employed the concept of beneficial uses within its dredging program for many years, and as formal policy since at least 1968. A recent Office of Technology Assessment study has reported that about 95 to 97 percent of the sediments dredged from coastal waters each year (about 150 million cubic yards) are considered suitable under Federal environmental criteria for a wide range of disposal options, including beneficial uses. In the recent past, about 15 to 20 percent of this material has been used annually for beneficial uses.

Corps authority for beneficial uses of dredged materials was originally limited to projects incidental to maintenance or construction and where there was no increase in cost to the Federal government or where the local sponsor would pay the incremental increased cost. The Corps received further authority for beneficial uses of dredged material for placement of material on beaches under Section 145 of the Water Resources Development Act of 1976 as amended. This authority, justified primarily as hurricane and storm damage reduction, requires 50-50 cost-sharing of incremental costs, and that the beach be public. Section 1135 of the Water Resources Development Act of 1986 provides further authority for dredged material beneficial use. Finally, Section 204 of the Water Resources Development Act of 1992 allows the Corps to participate in projects to use beneficially dredged material for aquatic habitat and wetland creation, restoration and protection. The authority is applicable to the construction, operation, or maintenance of an authorized Federal navigation project. There is a \$15 million annual appropriation limit on the authority, and the President's budget includes \$3 million to initiate the program in Fiscal Year 1994. The Corps and EPA have been working with interested states and others to address some of the issues associated with beneficial use of dredged material. One example of this partnership was a recent workshop held in Louisiana to discuss options for using dredged material to restore wetlands.

**Coastal Wetlands Planning, Protection and Restoration Act (PL 101-646):** The Corps is the chair of the interagency task force established by the Coastal Wetlands Planning, Protection and Restoration Act. The task force consists of the Secretary of the Army, the Administrator of the Environmental Protection Agency, the Governor of the State of Louisiana, the Secretaries of the Interior, Agriculture and Commerce. The purpose of this Act is to plan, design, construct, maintain, and monitor coastal wetlands restoration projects that provide for the long-term conservation of coastal wetlands and dependent fish and wildlife populations in coastal Louisiana. The first priority project

list was submitted by the task force in November 1991. The Corps will be the lead agency on four of the fourteen projects named on the list. The second priority project list was submitted in November 1992 by the task force. The Corps will be the lead agency on two of the fourteen projects named on this list. In addition to the individual projects being implemented, the task force is also preparing a restoration plan which is to be submitted in November 1993. The plan is to be a comprehensive plan for restoring Louisiana's coastal wetlands.

The development and implementation of these projects is cost-shared 25 percent non-Federal (State of Louisiana) and 75 percent Federal. Federal funds to support the development and implementation of these projects come from the Sport Fish Restoration Account, administered by the Department of the Interior. The Corps signed cost-sharing agreements on its first two projects with the State of Louisiana on April 17, 1993. The projects include the La Branche marsh creation project in St. Charles Parish and the Vermilion River cutoff in Vermilion Parish.

**Other Wetland Restoration Activities:** The restoration of wetlands is a significant part of the Corps water resources development program. There are two specific projects that I would like to highlight that demonstrate our commitment to wetland restoration. The Water Resources Development Act of 1990 authorized a feasibility study of the Kissimmee River in central and southern Florida to provide a comprehensive plan for the environmental restoration of the Kissimmee River. The Kissimmee River Flood Control Project was constructed by the Corps in the 1960s and consists of canals and water control structures. The project's construction, however, also reduced wetland acreage and degraded water quality resulting in a decline in fish and wildlife species diversity and populations. The environmental restoration plan that has been developed for the Kissimmee has two major components: a Headwaters Revitalization Project and a River Restoration Project. The Headwaters Revitalization Project, authorized by Section 46 of the Water Resources Development Act of 1988, will modify the existing Federal project in the upper basin to restore more natural flows into the lower basin. The second component of the Kissimmee project is river restoration which was authorized by the Water Resources Development Act of 1992. The river restoration will modify the Federal project by restoring the former wetland ecosystem in the lower basin, with its associated wildlife, fishery, water quality and aesthetic values. Both components are currently in the design stage with construction of the Headwater Revitalization Project scheduled for Fiscal Year 1996 and the River Restoration Project scheduled for Fiscal Year 1997.

A second major effort is the restoration of the Everglades ecosystem. The Corps is an active partner in a cooperative Federal/State effort that will lead to the restoration of the Everglades ecosystem. These high priority activities represent a significant

commitment by the Departments of the Army, Commerce, the Interior, and EPA, and the South Florida Water Management District to reverse the negative environmental effects of past actions. The recovery and restoration of environmental resources of national significance are at stake in these highly visible efforts.

There are several different activities that are ongoing in the Everglades restoration. First, in cooperation with the National Park Service as authorized by the Everglades National Park Protection and Expansion Act of 1989, major ecosystem recovery activities are underway that will lead to the modification of certain water control structures in the Central and Southern Florida water management system to improve the flow regime through the Shark River Slough into the Everglades National Park. All funding for this work is being provided through the Department of the Interior.

A second activity involves another segment of the Central and Southern Florida project. Canal C-111, located at the extreme downstream limits of the project, separates the Everglades National Park from extensive agricultural areas in south Dade County. Study efforts are underway to examine modifications to C-111 to maintain or enhance flood protection while restoring sheet flows to the lower portion of the Everglades National Park through Taylor Slough.

Finally, a reconnaissance study will be initiated this fiscal year for a comprehensive review of the Central and Southern Florida project to determine what modifications are needed to restore the Everglades ecosystem while accommodating other interests. This study was authorized by the Water Resources Development Act of 1992. The Central and Southern Florida Flood Control Project is the Corps largest project in Florida, and elements of the project have been under construction for four decades. A comprehensive review of the project is needed to address the requirements of the Everglades restoration in the context of the other project purposes such as flood control and water supply.

Wetlands restoration has high priority in the Corps water resources program and the two efforts I discussed are just two examples from a number of ongoing studies and projects.

**Wetlands Research Program:** In 1991, the Corps initiated a four-year, \$22 million Wetlands Research Program (WRP) to support its operation and maintenance activities. The chief purpose of the WRP is to develop and field verify more rapid, cost-effective techniques and criteria for the (1) identification of wetlands areas, (2) delineation of wetlands boundaries, (3) evaluation of wetlands functions and values, (4) restoration, establishment and protection of wetlands, and (5) stewardship and management of Corps-owned wetlands. Products from the WRP will enhance the Corps construction and

operations activities, other Federal agencies and states wetland programs and the Section 404 regulatory program. This will translate into better protection of our Nation's valuable wetlands resources and better service to the public.

### CONCLUSION

In summary, I would like to emphasize the Army's commitment to protecting and restoring the Nation's aquatic resources. While we must continue to improve the Regulatory Program in the interest of meeting our environmental objectives and avoiding unnecessary burdens on the public, we believe that significant improvements have been made and will continue with proposed administrative initiatives. With an effective Section 404 Regulatory Program and the other wetland activities mentioned in this testimony, we see real potential for improving the protection and restoration of the nations wetlands -- and perhaps reversing the trend of losing these valuable resources.

Mr. Chairman, that concludes my statement. Mr. Davis and I would be pleased to address any questions that you or other members of the subcommittee may have.



# REAUTHORIZATION OF THE FEDERAL WATER POLLUTION CONTROL ACT

TUESDAY, MAY 11, 1993

HOUSE OF REPRESENTATIVES, SUBCOMMITTEE ON WATER  
RESOURCES AND ENVIRONMENT, COMMITTEE ON PUBLIC  
WORKS AND TRANSPORTATION,

*Washington, DC.*

The subcommittee met, pursuant to recess, at 10:04 a.m., in room 2167, Rayburn House Office Building, Hon. Douglas Applegate (chairman of the subcommittee) presiding.

Mr. APPLGATE. Good morning. We will reconvene this Subcommittee on Water Resources and Environment and continue with our hearings on the Clean Water Act. This will begin our final two days of hearings on this subject matter.

We've gone through a large number of witnesses who have provided us with some very valuable testimony over the past several weeks. We have accumulated a great deal of material over the past few years under the chairmanship of Henry Nowak, and I think we're pretty much at the point that we know where we want to go.

Today's witnesses will include some Members of Congress, a drinking water panel, the Wetlands Coalition, and home builders and contractors representatives. Tomorrow we're going to receive testimony from industry and business, State and city representatives, and an academic panel.

Mr. APPLGATE. Before we start, I will yield to my very good friend and substitute, I guess, for Sherry Boehlert, who is not here this morning, Mr. Tom Petri.

Mr. PETRI. Thank you very much, Mr. Chairman. It's a pleasure to have the opportunity just for a day, at any rate, to be ranking Member on this subcommittee again. Sherry asked me to express his apologies for not being able to be present, but he has to be in Boston to testify at an important hearing to gather information about a potential base closing in his district in New York State.

I've always believed that we can effectively protect our Nation's waters without crippling American industry. In fact, a quality water infrastructure will increase American productivity, and clean water will ensure that American agriculture continues to thrive.

Today's witnesses should shed important light on the steps we need to take to balance our Nation's water quality interests. I look forward to the testimony we're going to receive, particularly that from our colleague on the committee, Representative James Oberstar, and our other colleagues who will be testifying at the beginning of the hearing today. Welcome.

Mr. APPLGATE. I was looking at this magnificent little item that has been set up here by somebody, which apparently is a water pipe that is pretty much closed in with some kind of gook that has been traveling through this line for a great number of years, and these are the things that we hope to try to be able to correct and try to keep that down. But that's what happens to our arteries, the same thing that happens to the water lines. [Laughter.]

Mr. APPLGATE. We're very fortunate to have some Members of Congress, and I'd like to have the three of those who are going to come and testify today: our very distinguished chairman of the Aviation Subcommittee on Public Works, Jim Oberstar; and we have the very distinguished gentleman, Dan Schaefer; and Representative Tom Barlow.

Is Tom Barlow not here?

[No response.]

Mr. APPLGATE. Well, there isn't anything really I need to say about either one of these two fellows that hasn't already been said a number of times, but we always yield to the chairman of our very distinguished committee, and we will do that today.

Mr. Oberstar?

**TESTIMONY OF HON. JAMES L. OBERSTAR, A  
REPRESENTATIVE IN CONGRESS FROM MINNESOTA**

Mr. OBERSTAR. Thank you, Mr. Chairman, and Mr. Petri. It's a pleasure to be with you this morning. I apologize for having missed the earlier assignment. I had an irreconcilable conflict that day, as often all of us do.

There could be no more dramatic framework for the hearings you're conducting, Mr. Chairman, and for the issue that I wish to address this morning, than the tragic event that occurred in Milwaukee earlier this year when thousands of residents of that city were stricken with a flu-like illness caused by a protozoan called *Cryptosporidium* that, in subsequent inquiry, appears to have been borne to the Milwaukee drinking water from agricultural run-off to a tributary that drains into a river that drains into Lake Michigan, from which the City of Milwaukee gets its drinking water.

That protozoan managed to make its way through the city drinking water treatment system despite the chlorination and all the other precautions—sand filtration and all the rest—that the city takes to keep its water system safe. It made its way into the drinking water system and caused the illness of thousands of residents of Milwaukee.

The fact that a disease that begins in the stomach and the intestine of cattle could make its way into the intestines of human beings from land run-off to tributary to river to lake to drinking water system, through chemical treatment, and back into people's drinking water system, ought to be another red-flag warning signal to us, if we needed any others, like the foam drifting across Lake Erie in the 1950s and early 1960s, like the Cuyahoga River catching on fire, like raw phenols bubbling up in the Mississippi River by the time it got to New Orleans, which galvanized this country into action on clean water.

We've gone through the first phase, the point source treatment of polluted water, and now we face the second line. We have spent

nearly as much on water pollution clean-up as we have on savings and loan clean-up—about \$207 billion—in industry, \$130 billion; and municipalities, about \$65 billion. All of us have paid for it in the final analysis. Citizens and consumers have all paid for it.

We've done a superb job, I think, of getting industry—about 95 percent of point source from industry are complying with the Clean Water Act. About 90 percent of municipalities are complying. But the new frontier, if you will, of pollution abatement is open space—agricultural lands, forestry lands, construction sites—where the land is stripped bare and the soil runs off into the streams, into the tributaries, into the rivers, into the estuaries, and worst of all, of course, are the freshwater and saltwater estuaries, where so much aquatic life begins and changes and transforms.

We have 42 toxic hot spots throughout the Great Lakes. A lot of those toxics are found in sediments from run-off that collected in these 42 critical areas in the Great Lakes. These sinks of pollution continue to contaminate the food chain, ultimately winding up in human beings.

I think I'm the only Member of our Public Works Committee who was here when the Clean Water Act of 1972 was written. I was administrator of the committee staff at the time and worked through what we affectionately called "the long march," the nine-month conference with the Senate, and that was not an occasional meeting. Those were daily sessions of furious, vigorous debate. Most of that act focused on point sources, but one provision, Section 208, focused on run-off from fields, forests, construction sites, and city streets—non-point sources, that section—I happen to have been very closely associated with.

I am also the author of Section 319, Non-point Source Management Programs, added in 1987. In anticipation of this reauthorization, I have developed a draft bill—and I emphasize draft—to build on that earlier legislation. The implementation would rest on shared responsibilities. The States and local jurisdictions and organizations would be the main implementers of the legislation, working with the individual land owners and operators and proprietors. The Federal Government role would be to provide direction, guidance, and financial support.

The bill focuses on watersheds. I spent over 10 years working on this issue with agricultural organizations, everyone from the Farm Bureau to the Farmers Union and the National Grange and all the rest who have had an interest. I have taken this issue out and met with farm groups in my district, and others have done so elsewhere around the country, to try to get a consensus of what works, what's the best way to deal with this problem, and if we don't have voluntary and willing participation by agricultural groups, no matter how strong the enforcement, it just isn't going to work. So we've got to have their input, and we've done that, I think, to a very large and successful degree.

The bill would focus on watersheds that are impaired or watersheds that are threatened. It tracks the recommendations of Water Quality 2000. It would build on the section 319 program and draw in the non-point program in NOAA's Coastal Zone Management Program, as well as the USDA Conservation and Water Quality Programs. It builds on what farm groups wanted—good actors, bad

actors—incentives for good actors, incentives for those who are willing to participate, but an enforcement fall-back for those who are unwilling participants or who outright resist, refusing to clean up.

The bill sets as a goal the full restoration and protection of the Nation's waters, defined as attainment and maintenance of water quality standards. I don't propose in any way to abandon water quality standards that have been developed at high cost and a lot of work.

The program would operate in this way: Four years after approval by EPA and implementation, the State would come back and assess the status of this watershed and the clean-up efforts, and it would go back to the owner/operators who have implemented plans, other sources who are involved in the watershed, and determine whether additional measures are necessary. If so, then the State would be able, backed up by the Federal EPA, to implement even further measures. Every two years there would be a review of the water quality standards and the status of implementation of plans for that watershed until full restoration and protection has been achieved.

The EPA would develop standards, but States would be responsible for managing the non-point source program. If, however, a State fails to carry out its program, EPA could take it over, establish a program, but could not implement that program. Only the State would be able to implement, actually enforce a program, no matter how lax a State has been. We don't want to come in and have a Federal substitutional role for States. We want to prod them, push them, force them, make them do their job, but this is going to work best if we have cooperation at the State level and if we have cooperation and participation by the other Federal Government agencies with similar responsibilities.

We propose also to establish a citizen watershed monitoring program to involve the public in this process.

Finally, I propose \$100 million a year in funding for the non-point source program. I think given all the other dimensions of the Clean Water Program, \$100 million is relatively modest, and it is not too little to do the job. Some have said that's not very much. But it would operate through the State revolving funds. I would suggest that if we could get the \$100 million, this program will stretch those dollars and make them effective, because it doesn't take a great deal of money. We're not talking about huge structures. We're not talking about building multibillion-dollar sewage treatment facilities, with all the complexity that has gone into the treatment of point sources. This is much less costly, but far more effective if we can get the funding.

We did finally, after our former colleague, Mr. Traxler, became chairman of the HUD-Independent Agencies Appropriation Subcommittee, win funding for non-point source for three years. For the current fiscal year, however, the Administration did not request funding, and the Appropriations Committee, in the cutbacks last year, dropped the funding. But we did get up to \$47 million, which is about half of what I propose in an authorization for the future.

As I said at the outset, this is a draft bill. I do not offer it at this point as a final, definitive statement. We're still getting input

and welcome comment from Members and hope that when the bill is introduced and the committee moves to mark-up that we can have this bill fully considered and, I hope, adopted in most of its points.

Thank you, Mr. Chairman.

Mr. APPLGATE. Thank you very much, Jim.

I'll say this for those who do not know, which I'm sure that you do, that there isn't anybody that I know that has been associated with this committee longer than Jim Oberstar, either as a staff person or as a Member, and he has written much of the law that's on the books that came through this committee, including economic development and Appalachian Regional Commission, which has been tremendously beneficial, and many of the things that we're talking about here now. So when he speaks, he speaks with some great authority.

Jim, could you stay around until we hear the rest of them, and then we'll just zip right through the other two? Or if you want, we can run through the questions now. However you want to handle it.

Mr. OBERSTAR. My colleagues are saying to go ahead and take the questions, and I see that I do have some Close-Up students coming into my office.

Mr. APPLGATE. I know how that is. I had 500 of them last Thursday.

Mr. OBERSTAR. Ohio is closer than Minnesota.

Mr. APPLGATE. Yes, you're right about that. Well, I don't have a whole lot, because I think you and I have talked a great deal, and I think I know pretty much where you are, but let me just say this. Of course, we know that you've done a great deal of work on both your draft and circulating your draft. Could you give us any idea of which interest groups, Federal and State, are reviewing and commenting on the draft?

Mr. OBERSTAR. I've given the bill to a very broad range of people and groups interested in the nonpoint source issue, including federal agencies such as EPA, the Soil Conservation Service, the National Oceanographic and Atmospheric Administration, the Tennessee Valley Authority, and U.S. Geological Survey. I've given it to various House and Senate Committee staffs and Members' offices. Also, I've distributed it to the states, through the Association of State and Interstate Water Pollution Control Agencies (ASIWPCA). I've also given it to many agricultural interests, including the Farm Bureau, the National Cattlemen's Association, the National Park Producers, the National Association of Conservation Districts. Also to the pulp, paper and timber groups and industries. And to the Chamber of Commerce, and some other industry groups. And, of course, to the environmental groups. I've met with a number of these, and received comments from more. So the bill has received wide distribution, and I've gotten back a broad range of comments which I plan to address in the next iteration of the bill.

Mr. APPLGATE. Okay. There are a number of groups who opposed your recommendations back in 1987 that ultimately became section 319, who now have sort of come on board, but oppose your

recommendations in the current draft. What non-point problems do you think need the most serious and immediate attention?

Mr. OBERSTAR. The most important thing we can do is to set up a watershed-by-watershed management program that operates, first, on incentives and, as a fall-back, upon an enforcement mechanism, and has a modest amount of funding to help farmers.

For example, on a dairy farm where a farmer is operating right up to a tributary, to a little creek, as we call it in Minnesota—out here and out East they call it a tributary, but Minnesota calls it a creek—and the cows get up too close to that creek, and all of their droppings eventually get washed off into the creek. Now, if the farmer would back up maybe 50 yards he would have some sort of a barrier so that the farm doesn't get that close, and there is some way to prevent that run-off. That takes away some grazing land maybe, it takes away some crop land, so he may need some kind of incentive. If he gets an incentive to back up, he's going to cooperate.

Those are the kinds of things that I'm talking about, protecting running water or still water from encroachment by agricultural or logging activities. For example, my district is a big logging area where you have a clear-cut and the land isn't properly protected, and you get a heavy rain and you get a lot of run-off. Well, what's running off could be some herbicides, and maybe some fertilizer and certainly a lot of debris in forestry activities that decays in the stream and causes pollution. Foresters, of course, don't want to have to spend the additional amount of money to establish those protections, but I think that it's necessary.

But I think the most important thing we can do is operate watershed by watershed, on a holistic basis, so you're bringing together—not singling out one activity, one practice, but looking at the totality of activities within that watershed.

Looking through the testimony that was given, farm groups testifying last week and in your previous hearings asked for a watershed-by-watershed approach. We have that. They wanted cost-effective site-specific plans. We've proposed that in this legislation.

Mr. APPLGATE. I think you're correct in stating that most of the groups that have come in seem to look toward that watershed management approach, and that may be the best direction in which we can go, and we're certainly looking at that. I thank you very much, Jim, and we'll be talking more, you and I, as we proceed down the line.

Mr. Petri?

Mr. PETRI. Thank you.

I have a number of questions. I don't want to burden you or someone in your office, but perhaps if I could submit them—

Mr. OBERSTAR. I'd be glad to respond here or in writing, whichever would be appropriate.

Mr. PETRI. I'll just ask one question, and then submit the rest, with the Chairman's permission, to you. Your bill calls for the development and enforcement of watershed implementation plans, and I understand it's for both non-point and point source pollution as part of the same plan, or would it be just non-point?

Mr. OBERSTAR. Non-point.

Mr. PETRI. Only non-point.

Mr. OBERSTAR. Yes, that's correct.

Mr. PETRI. So I guess the first question really is, why not have it be comprehensive and look at the tradeoffs between different types of pollution going into the watershed rather than just non-point pollution?

Mr. OBERSTAR. We already have a rather extensive regime for dealing with point sources, with a very strong enforcement program for industry, plus financial assistance for municipalities. Municipalities lag, frankly, behind industry in dealing with point sources. I didn't want to cross over into that area. What I wanted to do was to focus on what I see as the next frontier of the Clean Water Program, which is run-off from open land areas that does not come from a discrete point, for instance, a pipe. While we call run-off non-point, you may be able to identify a farm that is not using good agricultural practices, or you may be able to identify a logging sale, for example, that has not adopted or implemented good management practices, or a construction zone where the builder has stripped the land and hasn't put up the protective barriers to retain siltation after a rain.

But you have to look at this in the totality of its effect. There may be all three of those activities going on in a particular watershed.

Mr. PETRI. Well, now, at what point would the plan for a watershed turn into a permit for a particular activity by a farmer or other person within the planning area? I guess to some people who have looked at it, it sounds a lot like general or regional permits under EPA's current program for storm water and wetland regulation by the Corps.

Mr. OBERSTAR. As under current section 319, the States have the primary role in identifying and prioritizing their own watersheds and in administering the enforcement of programs. I envision that role continuing under the non-point source program. EPA ultimately will sign off on a State's program, but it's the State that's going to develop that program and implement the program, and if the State sees tradeoffs or sees need for flexibility or adjustment in it, they're going to have that ability. But EPA will approve the overall program. The State will actually operate it.

Mr. APPLEGATE. Thank you very much, Mr. Petri.

We're very fortunate to have our very distinguished chair of the full committee, Mr. Mineta.

The CHAIR. Thank you very much, Mr. Chairman.

Jim, I want to thank you for your thought and the work that you've put into this over the years. I'm wondering, to the extent that you delegate it to the States to establish standards, would that in any way weaken the process as it relates to the other portions of the Clean Water Act where the cry seems to be for national standards rather than State-delegated standards?

Mr. OBERSTAR. The EPA will establish water quality criteria. States will incorporate those criteria into their water quality standards. I retain in the non-point source program the existing water quality standards approach of the basic Clean Water Act. It's going to be principally in the implementation and the focus of each State on its plan where there would be some variation from State to

State. Not every State has the same agricultural practices or terrain as every other State, so we need to allow some flexibility.

The CHAIR. And to that extent, then, it would not come under the NPDES process in terms of the permitting?

Mr. OBERSTAR. It would not run counter to NPDES, no. It would complement the National Pollution Discharge Elimination System.

The CHAIR. As I recall, somewhere you also made reference to the Soil Conservation Service.

Mr. OBERSTAR. Yes.

The CHAIR. Someone might remind me. Is the Administration attempting to do away with the Soil Conservation Service or starve it of funds?

Mr. OBERSTAR. I hadn't heard that. If they try, there will be a great outcry in the countryside.

The CHAIR. I would think so, and I was trying to recall whether there was some attempt on their part to cut down on the funding—

Mr. OBERSTAR. Well, I think there was some talk about merging similar activities, combining a number of activities within the U.S. Department of Agriculture into one super subcabinet agency, but already the hue and cry has gone out across the countryside, as I've been hearing it from my district, about doing so. It's less elimination than consolidation into one super agency, and I think that's probably very ill-fated.

The CHAIR. Jim, I just want to thank you for the thought you've given to this. I guess what I want to make sure is that we don't bog down things from happening. I get the feeling today sometimes, is anyone interested in getting anything done anymore? And as much as we have to protect the future in terms of the environment, I'm just wondering to what extent, as we try to establish or make sure we adhere to standards, that it doesn't become a process that really just sort of bogs things down.

When it comes to non-point source, I think that's an area that we're going to have to treat very carefully, knowing how important it is, but to make sure that we don't, I guess, make ourselves less competitive in a global marketplace, whether it be industry or agriculture. As much as I want to make sure that our environment is protected, I just want to make sure at the same time that we just don't bog down the ability of the farming community or the industrial community from doing what they do best, and that's to produce and market our goods.

Mr. OBERSTAR. I appreciate your concern, because we both have in mind the near-disastrous experience with section 404 when the Corps of Engineers took a provision of the 1972 act and put to shame the miracle of the loaves and fishes and expanded it into 40 pages in the Federal Register. I'm very careful not to create a circumstance where we have another huge, costly, intricate, complicated regulatory program messed up as the Corps did with 404. I tried very, very carefully to avoid that situation, and yet at the same time, we have to address this problem of open space run-off.

The CHAIR. Thank you very much, Jim.

Thank you very much, Mr. Applegate.

Mr. APPLEGATE. Thank you, Mr. Chairman.

Mr. Hutchinson?

Mr. HUTCHINSON. Thank you, Mr. Chairman.

Following up on that, would your legislation envision the Federal Government having any role at all in the enforcement of the watershed implementation plans?

Mr. OBERSTAR. The implementation would be to the States. If a State fails to develop a plan, EPA can step in and develop a plan, but it will not have implementation authority. The implementation authority would be in the hands of the State.

Mr. HUTCHINSON. Okay. Thank you. What role will citizen suits play in enforcement of the plans and other requirements throughout the bill? We've had a rather bad experience in my State with the litigation problem.

Mr. OBERSTAR. The bill is silent on citizens suits. In fact, to get around that, I created in this legislation a citizen watershed monitoring unit that would be composed of people on all sides of the issue, watershed by watershed, who would have input into the administration of or implementation of and development of management plans.

Mr. HUTCHINSON. So it's your feeling that while that might not preclude lawsuits, it would minimize it?

Mr. OBERSTAR. That's my feeling. If you get folks in on the take-off, they're more likely to be with you on the landing as well.

Mr. HUTCHINSON. There are many, I think, sincere and environmentally committed people who would like to see more support given to these programs and to allow more time for them to also, in work, that we have not fully funded section 319, before we would move to a more restrictive, more regulatory kind of approach, that we should wait 4 or 5 years and fund properly and give proper support and proper study to that kind of voluntary program before dismissing it as inadequate or ineffective. What might be your response to that?

Mr. OBERSTAR. Well, what's in place now is a voluntary program, and I worked on that basis and took that advice and spent eight years developing this approach and seeing it work, and then when we got to the first crack of getting funding, of course, both the Administration and the House Appropriations Committee said, "Oh, we have to spend money on the manned orbiting laboratory instead of on non-point source pollution," and so I suggested "I hope you find water out there in space, because you're sure not going to have much clean water on Earth if you don't spend money to clean it up." Then we had a change of committee chairmanship and found a way to fund both space and Earth, and that program has been moving ahead, but very slowly.

There are folks who just aren't going to do something unless they know there's an enforcement mechanism, and I operate, as I said earlier, in this legislation, first, on the principle that incentives will get most folks, the good actors, those who express a willingness to comply, they're going to be participating, and there's going to be some incentive. But for those who are bad actors, those who will resist until the last minute, there has to be some enforcement mechanism, and the State level will be the best place to do that.

Mr. HUTCHINSON. Well, I also want to thank you for the hard work you've put in on this and for your presentation today. Thank you.

Thank you, Mr. Chairman.

Mr. OBERSTAR. Thank you, Mr. Hutchinson.

Mr. APPLGATE. Thank you, Mr. Hutchinson.

Mr. Hayes?

Mr. HAYES. Jim, there's no question that the non-point source issue is a valid one that you brought long before I served on this or other committees in the House and, as Mr. Mineta says, before I was born. Nevertheless, it's certainly an issue that should be raised. What I noticed in looking at the draft—and I realize in your own words it's a draft, not a finished bill to fruition, but there are a couple of things I'd ask about. One is, I'm not sure I understood, on the dividing of watershed into fifths, whether that meant a fifth of an estimated cost, a fifth of a plan, or geographically a fifth in size. What do you envision that as meaning?

Mr. OBERSTAR. Under the draft bill, the state would identify, and then prioritize, its impaired and threatened watersheds, and then divide the watersheds into five groups. The state would then develop and begin implementing a Watershed Implementatin Plan for each watershed in one of those fifths each year for five years.

Mr. HAYES. My reaction is not in opposition to it, but, once again, one of those differences of geography that you understand when you're talking about trying to localize some of the priorities, because I was thinking of the Mississippi River, and the watershed as you go down Louisiana is not really divisible easily into fifths geographically, and I'm not sure you can divide it by cost, it's so interlinked. I suspect in other places in Minnesota that's true. I suspect in other places, in different States, fifths would be a very reasonable and accommodating measure.

I would just urge you to try to put some of the same latitude that you want to give the States on others to perhaps come up with reasonable plans that may or may not have to be mathematically as precise, but make environmental sense and make good economic sense.

Mr. OBERSTAR. That's why we have this in a draft form and have received input from people and let others comment on it. It's an evolution.

Mr. HAYES. The second observation would be, and I would certainly support it, that when you do your legislation, you have it cut across other Federal programs, or it almost by definition becomes unworkable. I know that you mentioned another act that we can't leave out, but if we don't have a process—and I'll give you a specific example. Take your guy in Minnesota who is near the bayou that he calls a creek— [Laughter.]

Mr. HAYES [continuing]. And here you're talking about moving a fence or barrier. I promise you, from your State to mine, that's going to be on jurisdictional wetlands through a delineation manual and require 404 permitting as dredge and fill. If it comes under presently a general permit, then we have the Edwards bill that is saying each one of those has to be reviewed individually, even though we have no EPA employees in your State or mine to review them. They'd all come out of Dallas in my State, and I'm not sure what region you're in.

If we don't cut across some of those things to do the other, we'll just end up with endless additional layers of tape instead of addi-

tional environmental goals or additional water improvement through discharge, and I would just urge you to streamline your process, make it fair. In other words, balance it. You can't do something without authority, you have to catch the bad actors, and you've got to encourage the good, but you'll make them all actors who feel like they're in a miniseries that went on for an extended duration, week after week after week, if we don't give them a conduit that they can follow that isn't interposed with dozens of Federal layers.

That's not a disagreement with your approach, it's just a suggestion, because I would support any method that worked start to finish and didn't just become endless and entangled.

I thank you very much for your contribution and observations.

Mr. OBERSTAR. Well, on that particular point, the agriculture groups wanted a lead role for the USDA and for Soil Conservation Service, for example, and I've met with the SCS people. We brought them in, and I tried to understand their programs and give them that lead role, helping.

Mr. HAYES. Thank you very much, Mr. Chairman.

Mr. APPLGATE. Thank you very much, Mr. Hayes.

Mr. Hoekstra?

Mr. HOEKSTRA. No questions.

Mr. APPLGATE. Mr. Filner?

Mr. FILNER. [No audible response.]

Mr. APPLGATE. Mr. Menendez?

Mr. MENENDEZ. [No audible response.]

Mr. APPLGATE. Boy, Jim, you got off easy.

Mr. OBERSTAR. I want to thank my colleagues at the table here for their forbearance and my colleagues for their questions, very helpful and thoughtful. I appreciate that. And thank you, Mr. Chairman.

Mr. APPLGATE. Thank you very much for being here, Jim. We appreciate your input.

Next we will hear from another very distinguished Member of the Congress from the great State of Colorado, who serves in a number of minority legislative positions, and also is a very active Member of the Energy and Commerce Committee, Dan Schaefer.

It's good to have you before the committee, Dan.

#### TESTIMONY OF HON. DAN SCHAEFER, A REPRESENTATIVE IN CONGRESS FROM COLORADO

Mr. SCHAEFER. Thank you, Mr. Chairman, and Members of the committee, for allowing me to testify today on legislation that I've sponsored, which would be in cooperation, of course, with the Clean Air Act, and that's the Federal Facilities Clean Water Compliance Act. I will try to keep this very brief, because I know the Members' time is valuable to them, as we sit in a number of different committees. I would ask the Chairman to allow me to submit my statement as part of the record.

Mr. APPLGATE. Without objection, your prepared statement will appear in the record.

Mr. SCHAEFER. For the Members of this committee, the title of this bill, H.R. 340, may have a familiar ring. Those who were here last year, during that Congress, remember that Congressman Eck-

art and I had worked for five years to get legislation through that would say to Federal facilities, who had sovereign immunity prior to that time, that they have to now comply with RCRA, the Resource Conservation and Recovery Act. This, I think, was very, very important. It's starting to send a lot of waves out amongst the Federal facilities throughout this country. In talking with people from the EPA, this is definitely what they are telling us.

So this year what we have done is to introduce legislation, H.R. 340, that would now say to the Federal facilities that they have to comply as well with the Clean Water Act. If the Chair and the Members would look at the chart we have over here of figures from EPA, the out-of-compliance of Federal facilities is about 15 percent. It ranges up and down a bit. It's getting better. But if you look at the private industry, outside of one particular month where—these were taken in June of each year—it shot up, but, generally speaking, private industry is complying all the way along with the CWA. So why not have to have the Federal facilities comply as well?

The biggest opposition that Dennis and I had over this five-year period was from the Department of Defense and the Department of Energy, mainly because of the Defense facilities and, of course, the various Department of Energy plants that do make weapons.

As a matter of fact, as recently as September of 1991, an alarming 20 percent—one in five—of major Federal facilities were cited by EPA as being in significant non-compliance with the Clean Water Act. Even more disturbing, a General Accounting Office study showed that of those Government facilities in violation of CWA, more than 40 percent remained so for a year or longer. In its report, GAO's recommendation to Congress could not be more clear: EPA and the States need to improve enforcement at the national Federal facilities.

Unfortunately, efforts by State and Federal regulators to improve compliance rates have been repeatedly frustrated because Congress, as the Supreme Court recently confirmed—that was just approximately a year ago—has failed to waive sovereign immunity under the Clean Water Act. Federal agencies have largely been protected from State-levied civil penalties and administrative enforcement actions. This has set up the curious situation in which EPA and the States are prohibited from assessing against Federal facilities enforcement methods that they routinely do against private industry.

I believe this double standard must stop, and I would think that the committee would certainly agree with this. There's simply no reason why the Federal Government should not be forced to abide by the same rules it imposes on others. H.R. 340 would correct this inequity by waiving sovereign immunity for violations of the Clean Water Act, thereby subjecting Federal agencies to State and EPA enforcement actions. It is closely modeled after last year's successful RCRA effort, which Mr. Eckart and I got actually five times through the House, and the last one passed with only three dissenting votes.

Recently I spoke with individuals in the Federal facility office at EPA regarding the effect waiving sovereign immunity had on their ability to enforce provisions of the RCRA statute. The answers I received were very encouraging. I was told that while just months

ago Federal environmental regulators were dealing with lieutenants and captains, they're now dealing with generals. They're now finding generals across from them at the table trying to comply with the legislation that Mr. Eckart and I were able to pass.

It is with no pride of authorship that I bring this legislation to the committee. In fact, having just finished a five-year struggle, as I said, on the RCRA side, I would certainly have no objections to its inclusion in the upcoming Clean Water Act reauthorization bill. In fact, I urge the committee to do just that and would welcome an opportunity to work with you in that regard.

In closing, Mr. Chairman, and Members of the committee, I would ask that a resolution adopted unanimously by the National Association of Attorneys General in support of H.R. 340 be made a part of the record.

Again, Mr. Chairman, I thank you very much and the committee for allowing me to testify today.

Mr. APPLEGATE. Thank you very much, Dan. Let me ask you this. Taking a look at that chart, what's the significance of June of 1990? Why did that shoot up like that?

Mr. SCHAEFER. Well, this was just an abnormality. We asked the EPA what the particular reasons were, and they really couldn't give it to us. They just said that over a period of time from 1986 to actually 1990, it was rather constant, and then a number of things came into play. We can try and get some more information. We received all these figures from EPA and developed our own chart, but they couldn't give us a real specific why in that one-month period, of which they do it in that month of June every year, it shop up. But we can certainly look more into it.

Mr. APPLEGATE. In fact, it doubled.

Mr. SCHAEFER. Yes. Well, an important factor is that all along most of it had been in compliance of less than about 8 percent or so. I mean, they were really complying, and the Federal facilities were much higher than that out of compliance. But we can certainly check further into that and see if we can get some specifics on it.

Mr. APPLEGATE. Yes, it would be of interest to find out just why in that particular month—

Mr. SCHAEFER. I asked my staff the same thing this morning when we looked at it, and we couldn't get a specific answer.

Mr. APPLEGATE. It would seem to me if it could do it any one particular month like that, it could do it in any particular month of any year. Let me ask you this. The Congress, now that they've approved the enhanced enforcement action against Federal RCRA violators, have you seen any change in the compliance behavior of the various Federal agencies?

Mr. SCHAEFER. We just had the EPA in about a month ago and talked to them about what effect the Federal Facilities Compliance Act was having. As I mentioned in my testimony, in the past, whenever they were trying to work out deals with the various agencies, particularly, in this case, DOD, they were having to deal with subordinates—the lieutenants, the captains, et cetera. They did not have to really get into it and do anything. It took them a long period of time, and now they're dealing with the hierarchy, the generals, that are saying, "We want to comply now." Prior to that,

there wasn't any enforcement by anybody. The EPA could say, "Well, you should be doing this or that," but they didn't have to do it. So now what it's done is it's forced the Federal facilities to work deals out with the States, whereas before the States had no authority at all, and now they have to do it.

I know in my own case in Colorado, the Rocky Mountain Arsenal out there, a tremendous problem we've had for years, terribly polluted, that we've finally been able to work a deal out. Rocky Flats, a DOE facility producing plutonium triggers, now the States will be able to get into it.

So they are very encouraging. As a matter of fact, they say it probably could be one of the most significant pieces of legislation environmentally that we have on the books at the time.

Mr. APPLEGATE. Well, I can agree with you on that. It seems to me that that's just a continuance of how people look at the Federal Government, though. We aren't exempt, but they perceive us to be just exempt from all the other laws that govern the rest of the people.

Mr. SCHAEFER. That's exactly right.

Mr. APPLEGATE. That we live in two different worlds and we don't abide by the same laws that we force them to abide by. So I think the legislation sounds very reasonable, and we'll look forward to working with you on this.

Mr. SCHAEFER. I appreciate that, Mr. Chairman.

Mr. APPLEGATE. Mr. Petri?

Mr. PETRI. Thank you, Mr. Chairman.

I really just wanted to focus for a minute on one part of your bill, because it is a problem area in legislation of this sort that we're wrestling with on some other committees that I'm on. This may be too broad a statement, but I have the impression that in areas like worker safety or others, we're setting standards for the private sector and enforcing it. Yet as a government, we should be setting an example, but we're not often managing to perform to the same standards that the private sector is.

Part of that seems to be enforcement sections. When you get right down to it, no one owns Government agencies or whatever in the same sense that they do private businesses, and, therefore, fines and various other penalties don't work in the same way with a Government agency that they do with the private sector. And then we tend not to provide capital investments as much as in the public sector. I think we tend to be driven more toward salaries and that sort of thing over time and less to capital expenditures in operating than does the private sector.

So an agency is fined. So what? I mean, how is that going to really change the percentages here? What can we do? I'd really be eager to see if we can think of some way of having effective enforcement or increasing the ability of the managers of agencies to comply with these Federal laws or mandates. Often they may want to, but they just don't have the means to do it because they're driven by various budget constraints, and you can't get compliance out of thin air, even with the best of intentions in some cases. Sometimes it takes money. So do you have any comments on that?

Mr. SCHAEFER. Well, yes, Mr. Petri. Let me just put it this way. Again, talking with EPA after this legislation now that was signed

by President Bush at the time, last October, what they're saying to us, and which we had said all along, is that all of a sudden we're seeing a turnaround in their willingness to work out deals with the individual States of whatever that facility is in to comply with environmental law.

Let me put it this way. Take a general who's in charge of a particular base. The last thing in the world that he wants to have on his record is the fact that he all of a sudden was out of compliance with a statute in legislation from here in the Congress. That's the last thing he wants. So, therefore, now what they are doing, what is propelling a lot of this, outside of the fact that even if you only had a \$5,000 fine or a \$10,000 issued by a State, the last thing they want is the fine issued. It's not the monetary dollars as much as it is the fact that they were out of compliance with Federal law, being a part of the Federal Government themselves. So that is driving it as much as anything else.

And you could do the same thing with DOE. A particular manager at a plant, say, at Rocky Flats, where it's not so much the fact that they would get a fine from the State for being out of compliance, but it's the fact they got the fine that really concerns them as much as anything else. I mean, it just doesn't really look good. It doesn't set good in the press, in the media, or anything else.

So, therefore, that's why the attorneys general across the country unanimously not only endorsed the Federal Facilities Compliance Act of last year, but have also endorsed H.R. 340 for the same particular reason. They have more clout now. They have more authority now. Before they had none. And every one of these is different than the other.

Mr. APPLGATE. Thank you, Mr. Petri.

The gentleman from California, Mr. Filner?

Mr. FILNER. [No audible response.]

Mr. APPLGATE. Mr. Hoekstra?

Mr. HOEKSTRA. Thank you.

Have you taken a look at what the cost ramifications of passage of this bill would be, what kind of requests Congress would receive from the different Federal agencies for capital improvements that would get them into compliance?

Mr. SCHAEFER. The only thing that I can tell you at this point in time, and certainly there would be dollars that were going to be involved, whether it would be dollars in the private sector as well as dollars at the Federal level. We do not know at this time how many or to what extent the various violations are across this country. All we know is that in many cases the Federal Government and its facilities are worse polluters than private industry itself, and one of the reasons in the past is because there hasn't been any lever by which to enforce them into the violations of RCRA or now the Clean Water Act. We in Colorado at Rocky Flats know that there has been violations of the Clean Water Act, and this comes from a Federal agency. So it's tough to tell exactly what the costs are at this point in time, because we don't know to what extent all violations are, all we know is that they are violating. So the figure would have to be put into their individual budgets.

The other thing is when, for example, DOE brings in a private contractor to run a facility, in many cases they build in that con-

tract cost of violations that they know are going to happen, and so, therefore, the contractor really is not out any money out of this, because it's all built prior into the contract itself. I am the ranking Member on the Oversight and Investigations Committee on Energy and Commerce with Congressman Dingell, and we're looking into this particular situation at this point.

Mr. HOEKSTRA. So in effect what we would experience is what we do to many States and private industries, where with passage of this bill we would be mandating standards for us to enforce, at which point in time, when agencies came back to us for improvements, we would most likely be pretty prone to pass funding for the improvements.

Mr. SCHAEFER. Well, you have to look at the basic philosophy, I think, and that is how is it that we can ask private industry to have to do this when we're not doing it ourselves at the Federal level. Why not? And I think it's real bad policy. The Chairman pretty well laid it out. Just the perception of the Federal Government not complying with environmental laws which they pass themselves is ridiculous. So certainly this would have to be all included when it comes around to the appropriation process.

Mr. HOEKSTRA. I'm not disagreeing with your point.

Mr. SCHAEFER. No, sir, I understand that.

Mr. HOEKSTRA. I agree with it very strongly in terms of it's very ironic that we don't meet our own legislation, and I've only been here a short period of time. I wonder if when we went through the process it would help to know how much this was going to cost the private sector or States. I would just like to see in the future that as we pass legislation, we would know who's going to pay what to meet the requirements of a certain piece of legislation.

Mr. SCHAEFER. I appreciate the gentleman's philosophy on this. I guess the only thing that I can say to that is that every one of these violations will be a little bit different. Just take Superfund sites. We are now in the process of reauthorizing Superfund. What is it going to cost to clean up one site versus another site? We don't know that at this point in time. The EPA is still going through this particular process. We will not know to what extent a violation has been committed by a Federal facility dealing with the Clean Water Act until we finally start engineering it and designing it and trying to figure it out. Then they would have to come back and say, "Well, this clean-up or this violation that we have done over a period of time was going to cost X amount of dollars," and you would have to build that into this whole appropriation.

Mr. HOEKSTRA. Thank you.

Mr. APPELLEGATE. Thank you very much.

Mr. Menendez?

Mr. MENENDEZ. [No audible response.]

Mr. APPELLEGATE. Mr. Quinn?

Mr. QUINN. [No audible response.]

Mr. APPELLEGATE. Mr. Barcia?

Mr. BARCIA. I have no statement, Mr. Chairman, but want to thank the panel for appearing. I find the topic extremely and vitally important to my district back in Michigan.

Mr. APPELLEGATE. Thank you.

Dan, thanks again.

Oh, Mr. Horn, do you have anything?

Mr. HORN. [No audible response.]

Mr. APPLGATE. We certainly want to thank you very much for being in front of the committee.

Mr. SCHAEFER. I thank the Chair, and I do have a mark-up on reconciliation in E&C, so I have to get over there.

Mr. APPLGATE. We'll look forward to working with you.

Mr. SCHAEFER. Thank you, sir.

Mr. APPLGATE. Mr. Barlow, welcome to the committee. We're anxious to hear what you have to say.

**TESTIMONY OF HON. THOMAS J. BARLOW, A  
REPRESENTATIVE IN CONGRESS FROM KENTUCKY**

Mr. BARLOW. Thank you very much, sir. Mr. Applegate, Members of the committee, I appreciate the opportunity to appear before you, especially following these two fine Congressmen who were speaking for very important concerns and ones that I agree with wholeheartedly.

Let me just talk for a few minutes about western Kentucky, and south central Kentucky, both of which are in my district. I'm very concerned that at this particular juncture—and it's been coming for a while, and it's time that we need to stop and take a look—we're moving from having solved the major point source problems of our Nation for water pollution clean-up, problems of cities and large industries, and are now focusing our attentions in a broad, comprehensive way on rural areas.

Let me state from the outset, from personal experience, that I have some background in having worked with water pollution clean-up problems from the national level here in Washington back in the 1970s, but also more importantly, on the ground in western Kentucky in a rural area for a number of years now. I've seen EPA transformed into an agency that is operating in a harassing and a time-consuming and an expensive way when it comes to the impact that it is placing on small towns in rural America and farmers, who, as you know, are hard-put all the time to make a living. I would hope that the committee could look closely at the different approach perhaps that EPA ought to be taking not only on its own, but in conjunction with other agencies, as it reaches out to these rural regions and comes to grips with farms and small businesses and small towns.

You know, it's one thing to deal with a big city sewer authority or a large industry. Perhaps in that situation you want to be almost a policeman. But when it comes to rural areas, that's the wrong approach to take, and to tie people up in time-consuming paperwork—to give you examples, many, many small towns in my region are trying to come to grips with the needs for clean water and sewage clean-up and clean drinking water, and the water authorities are volunteer organizations essentially in terms of the people from the town serving on boards. And yet they are seeing standards applied to them and procedures applied to them that are duplicative of what a large metropolitan area would have to do.

This is an area that needs some close attention, and I would hope that as you go in to considering the Clean Water Act.—We in the Agriculture Committee want to reach out to you and help you

in any way we can in fashioning the legislation that might bring regulatory relief as we move into this phase of clean water.

Let me talk about a couple of specific areas. Many of us are traveling through our districts every weekend now, and a district judge in one of the counties in the eastern part of my district caught me last weekend as I was passing through town, and he said, "Listen, I want to tell you one of the biggest problems in my area here is that we have dumps back in far recesses of our county and on farms where people, over the years, just put stuff in the ravine and so forth just to get it out of the way, going back over 50, 100 years, and it's sitting there. Farmers in a position where they'd like to do something about it. They are very attentive to the needs of clean-up now, very aware of a problem that might be caused by run-off of leachate through these very informal dumps back in ravines and so forth. But they don't even want to bring it up on the table, because they're worried of liability and they're worried of regulatory harassment."

Might there be some consideration to having a grace period set forth in law, focused right on this problem of on-farm agriculture where people dump their trash? And it may be on the side of a stream. As you drive through rural regions, you'll see people have pulled off the side of the road by the bank of a stream and dumped things down. Maybe there might be a way to just relieve the regulatory reach in some oversight fashion, some liability fashion, and allow people during this time to get in there and get these things out of there, and then bring the regulatory outreach back on-stream.

I'd like to talk just about the difference here in farm areas with water compared to industry. People say, "Well, industry is cleaning up. It's putting on the sewage treatment or pollution control at the industrial operation, and they're paying for it themselves, and they're doing the job of clean-up by themselves, as required by law. Why shouldn't farmers bear the same full expense and do the same thing?" I would like to make one major distinction between water as industry manages it and water as a farmer manages it.

Industry, for the water that it needs in its operations, essentially reaches for the faucet, turns on the faucet, takes the water that they need, the volume that they need, and then turns the faucet off after they have finished getting the amount of water they need. Farmers are very different, as you would know. Rainfall, groundwater. A farmer may only need 2 or 3 or 4 percent of the total volume of water that inundates his land from weather, and yet he is looked to by the public to safeguard all that volume of water that comes off his land from whatever source.

I believe that this is a justification for the cost-sharing programs that we have applied in rural regions over the years with farm operators where the Federal Government, from the public's purse, is reaching out to the farmer and saying, "Hey, we realize that you are taking on an extra burden here, and we are the beneficiaries downstream, so we're grateful to you for taking the cost on yourselves of that portion which you use, or maybe a little more, and here's another outreach from us to help you along in making sure that all that water is cleaned up." And farmers are willing to do the job. They're willing to take it on, but they do need that cost-

sharing assistance, and we in the Agriculture Committee will help you in any way I know to fashion whatever authority to do the job there.

I'd like to talk just one minute about the problems with the underground storage tanks. We in the rural regions know these are a problem. Every small town in our region and most rural regions have tanks from abandoned or forgotten industry, small companies, filling stations that have closed and gone years ago. Many of these tanks, no one even knows where they are. But to come in with an approach where tens of thousands of dollars are going to be used on a tank, where you're going to dig the tank up, and then you're going to just start excavating soil in all directions, running up tremendous amounts of money, seems to me to be a little wasteful.

Now, the tank is a problem, and it needs to be gotten out of there. The soil, to the extent that it might be contaminated around the tank, is another problem. I would urge that perhaps we could take the problem here in slices and go after the tanks, get them out of there. It's a first step, it's an easy step. Locate them, extract them, get them out of there, and go do all the tanks first in a county. It may take a few years with the resources we might have available. Then come back and make a case-by-case judgment on what you're going to do about any contaminated soil, to the extent there is contaminated soil. And maybe we'll find methodologies, biological treatments, organic treatments that can be applied so we don't have to go to the tremendous expense of excavating and filling to get this soil out of there.

Essentially, when it comes to wetlands, we are trying in our region, under wildlife management plans, to do something that is very novel, and that is to create wetlands in conjunction with farm land. I don't know if they're doing it out in Ohio, but out in western Kentucky we're trying out—some farmers, on their own, are harvesting their crop, and then have a dike that's semi-permanent, and then in the late fall and winter months and early spring months, they flood the land for wildlife, for geese and ducks to come in. Then when spring planting time comes, they drain it, the geese and duck are gone, they open its sluice and drain it, plow it up, and plant it.

You're getting a tremendous two-fer here. You know, you're getting a breakthrough that we got with minimum tillage where we had the erosion problems there that were plaguing farm land in America, and we were, all of us in Agriculture, wondering how were we going to get on top of this corrosion problem without tremendous expense, and we came up with minimum tillage, which has increased production, is saving farmers money, and is saving the soil. I'd like to think that with these wildlife management plans that we can get wildlife management and agriculture production moving in tandem instead of at loggerheads, the way it can be built up sometimes.

In sum, we need simple, low-cost, easy-to-apply, effective techniques for pollution control. I would hope we would move away from the monitoring requirements. For instance, in my State, the Department of Natural Resources has come up with, in concentrated animal feed lot situations, pursuant to U.S. EPA mandates, they are telling us that we've got to put in test wells to mon-

itor groundwater at the cost of \$20,000 to \$30,000 per farm, and I would submit that this is coming up to the barn door after the horse has been stolen. We shouldn't be about testing so much as making sure that simple, effective, low-cost, and the best management practices are applied.

Let me just say in response to this outreach from the Department of Natural Resources where they were looking to farmers to put in \$20,000- to \$30,000-per-unit test wells, farmers came back very quickly, with the help of the Soil Conservation Service, and they're installing artificial wetlands in these concentrated animal feed lot situations at the cost of \$2,000 or \$3,000 or \$4,000 per farming operation, and the run-off is sluiced through these artificial wetlands, which are working magnificently in far western Kentucky and delivering water at the end of the process that is cleaner than the streams that it's going into. Here is an example where, in working in cooperation with farmers and with on-the-ground USDA agencies, we're coming up very novel and very imaginative and very effective techniques, and I would urge the committee to encourage this type of approach.

Farmers do need financial help, and the reason is because our farm programs are not a Government assist so much to farmers as a Government assist to consumers, and the price supports and the price levels keep a lid on prices. To be sure, farmers benefit from the steady financial support that farm programs supply, but they also operate as a lid on crop prices when the crop prices start to push upwards. Because with farm programs, we are always keeping a full larder in excess supply as a damper on market prices.

I use the analogy of what if the Government were in the business of supporting the automobile industry, and the equivalent structure would be every auto dealer would have 5,000 cars on his back lot, and wouldn't that put downward pressure on the price of the cars moving out the front door. The same is true in farming, and that's why I believe that for the future of the resource quality and resource strength, farmers need financial assistance for the public benefit side of the resource work that they're doing.

Thank you very much. I submit my testimony for the record.

Mr. APPLEGATE. Without objection, your prepared statement will appear in the record, and I appreciate your being here. You covered a lot. I'm not going to try to attempt to address all of these things, but one thing that you were just talking about was the wetlands and about what they do down in Kentucky. I don't think that we do that in Ohio, but they might.

My question is this: If you establish a wetland, and then you sort of dry it up and farm it, and then you bring the water back in for wildlife, it's still wetland. Is that legal?

Mr. BARLOW. Well, let's put the legal question aside for just a minute. [Laughter.]

Mr. BARLOW. Let's look at our goal, what we're trying to achieve. All of us want to boost our habitat. Farmers, just as people in cities, are appreciators of wildlife and waterfowl, and what we're trying to do here—and it's being done in a few situations to see how it works, and it's being tried by individual farmers on their own—they put some dikes up around a section of their fields, as I said in my testimony, and then they flood it after they harvest

their crop in the fall. It gets tremendous usage. We're in the Mississippi flyway there, and it gets tremendous usage. It's a great resource, a haven for ducks and geese on their way through.

The farmers that are doing it are very happy about it. They're getting a good feeling out of doing it, and then in the spring when it gets toward planting time, they pull the sluice and drain it and let it dry out and put it into crop production. Everybody's benefiting, including the ducks.

Mr. APPLGATE. I can understand what you're saying, and I think it makes common sense. But the question still comes down to, Is it legal for them to be able to do that?

Mr. BARLOW. Let's explore it, because I think there's an opportunity here to create some very worthy public-private cooperation in an area where we have been struggling in the past few years, and maybe we'll get an outcome from which everybody is saying there are benefits. That's what Congress is all about these days.

Mr. APPLGATE. We like to think so. You talked about underground storage tanks, and I think that that is a very serious problem. I have a lot of little gas stations that have that problem, people who have been out of the business for many years, and we'll deal with that mostly through the Superfund when we get into hearings, and we'll see how it ties into clean water, because I know what some of the leakage can do to getting into the aquifers. But your suggestion may be very good.

The difference between the use of waters by the farmers and the industry, I see you have good arguments on that. Certainly, I think that farmers probably know a hell of a lot more about the use of water than industry.

The regulatory relief that you're talking about as for illegal dumping by streams and places like that, I know that—

Mr. BARLOW. These are old dumps that I'm talking about. You can see them in the wintertime as you're driving along. It might have been done 40 or 50 or 60 years ago, before law had any application.

Mr. APPLGATE. Well, people are still doing it in some areas, too.

Mr. BARLOW. That's true, too, yes.

Mr. APPLGATE. And we're trying to eliminate that by tracking of hazardous and toxic waste and dumping of any kind of solid waste, and that, of course, comes within the jurisdiction of another committee that we have here and one with Energy and Commerce, which I had legislation in last year that didn't seem to go anyplace, but we're working on it.

I sympathize with you greatly when looking at the difference between the rural and the big cities, and I've said time and time again that I know that the big cities have big, big problems and it takes big, big bucks. If you talk about \$500 million for Boston Harbor, it's a drop in that harbor. They need a lot more than that. But if you take \$500 million and bring it back into the various States and put it into a fund whereby they could use it to help them to meet their obligatory needs, it can go a long, long way. So I understand that.

Let me just mention this one question, the fact that you did mention groundwater monitoring for farmers in your district. I'm not sure that there is any required groundwater monitoring under the

Federal Clean Water Act. Can you tell me what statute that monitoring is required under? Do you have any idea on that?

Mr. BARLOW. We'd have to research that, but this essentially was the Department of Natural Resources in Kentucky moving under the overall framework of the Federal Water Pollution Control Act, and I think that really is essentially as far as we need to go. They're moving in the framework that the Federal Government has created, and the route that they were going to take—it's now stopped—was to require these test wells, and that has created, as you can imagine, an awful lot of concern. Fortunately, we have, as I said, the remedy at hand, which is a very effective best management practice, in the artificial wetland.

Mr. APPEGATE. Well, I thank you for your testimony, and you can't be all bad. Your name is Thomas Jefferson Barlow, and that's one of my two favorite presidents, so that puts you one step up, anyway.

Mr. BARLOW. Thank you, sir.

Mr. APPEGATE. Mr. Gilchrest?

Mr. GILCHREST. Thank you, Mr. Chairman.

I found the diking system for alternating periods of growing crops and having wetlands intriguing. I represent a rather large agricultural area myself, and I would just like to find out a little bit more about that process to see how well it would work in my area. Could there, however, be a concern—there's a movement in agriculture now where the field basically is covered year-round, and there's a cover crop put on in the wintertime to help uptake some of the nitrogen that has been placed in the soil so that it doesn't leach into the ground and get into the groundwater. Is this at all a consideration, or has that been solved with this new solution?

Mr. BARLOW. I'm not sure that the chemistry interchanges have all been studied. This is something—you know, minimum tillage got started down in my district back in the late 1950s and early 1960s by farmers who were just trying it out as a technique and developing it on their own and hammering out the early technology to drag behind the tractor.

We're inventors, West Kentuckians. I like to say the engineers in Detroit take credit for the automobile industry as it developed in all its grandeur over the last 50 years, but it was really Kentuckians who did the job. And we're doing the job, I think, in a very effective and imaginative way here in terms of creating wetlands.

Now, we've got a lot of studies to do, but we'll get you more information on this one for the record, if that would okay.

Mr. GILCHREST. I would like to look into it a little bit further. It must also be pretty good for anybody that wants to rent out their farm for goose hunting. If you're attracting all those geese in that area, that would also be a lucrative part of the economy, I would imagine.

Mr. BARLOW. I believe that there is some interest there.

Mr. GILCHREST. I'll just make a couple other comments about what you said. A lot of rural areas have problems with old dumps. People would just put them out in the back 40 or something like this, and neighbors would also put it out in the back 40. I think it's a good idea to possibly have some type of grace period where

someone can say, "I have this dump," and maybe it's been used fairly recently, but we need to have some way for people to come out and say these things can be cleaned up instead of trying to hide them and then finding it generations in the future.

The cost-sharing, I think, is a positive thing for farmers to help them create a soil conservation plan to reduce the run-off, and all of that is very costly, whether it's buffer zones or waterways or reforestation or preserving wetlands on their property. We understand the importance of it, and now we all have to work together as a team to help make it happen.

There's one other quick item. We share an awful lot in common. Underground tanks on farms is a problem wherever you have an agricultural area, and we need to create a climate so that people aren't afraid to report that they have an underground tank and find a way to get the tank out and find a way to get rid of that toxic soil that's under there.

So thanks for your testimony, and I am interested in that alternating farm land/wetland situation.

Mr. BARLOW. We'll get some information from the Soil Conservation Service for you on it.

Mr. GILCHREST. Thank you.

Mr. BARLOW. Thank you.

Mr. APPELGATE. Thank you, Mr. Gilchrest.

Chairman Mineta?

The CHAIRMAN. No questions, other than to thank our colleague, Mr. Barlow, for his help in offering this suggestion. Thank you very much.

Mr. BARLOW. Thank you.

Mr. APPELGATE. Mr. Horn?

Mr. HORN. Thank you, Mr. Chairman.

I've enjoyed the comments of the gentleman from Kentucky. I grew up on a farm. I still own the farm. I'm very sympathetic to what you've described in rural America. You mentioned the wetlands, and I was rather intrigued by the progress being made on cleaning the water. The Corps of Engineers has responsibility for regulating the wetlands. How have you found that group to deal with on these problems? Are they understanding? What's your reaction to the Corps' efforts in this area?

Mr. BARLOW. I've never had any personal direct experience myself with regard to permits. There are concerns in my area. There's been litigation in my area between individual land owners and the Corps. In some situations, it has been a matter of principle. Many situations, I believe, are worked out quietly, and nothing really develops of a serious nature. But there is that concern that farmers—you're one—all farming people are very proud of their land and very careful of their ownership rights, and I believe that if they have a feeling that they are being addressed from on high, understandably they're going to rear back. That's always a problem with any agency, and I don't think the Corps is in a predicament here. I think they're doing a good faith job, but we've got to explore this whole area of wetland permits more.

Mr. HORN. Do you think there ought to be a new agency that just specializes in wetlands management and regulation?

Mr. BARLOW. I believe that that would be something to consider, yes.

Mr. HORN. Thank you. I thought your comments had great common sense and wisdom.

Mr. BARLOW. Thank you.

Mr. APPELEGATE. Thank you, Mr. Horn.

Mr. Filner?

Mr. FILNER. [No audible response.]

Mr. APPELEGATE. Mr. Hamburg?

Mr. HAMBURG. No questions.

Mr. APPELEGATE. Well, Thomas Jefferson Barlow, thank you very much for coming before the committee. We appreciate it. You've had some very intriguing ideas, and we'll be talking further with you as we move down that track.

Mr. BARLOW. Thank you.

Mr. APPELEGATE. Thank you very much.

Now we have two panels that we're going to move into, and we're going to do these things as expeditiously as possible. We have the Association of Metropolitan Water Agencies—and if you will, please come up and take a position at the desk where your name is—Mr. Buddy Williams is the Director; John H. Sullivan with the American Water Works Association; and Roland Geddes with the National Association of Conservation Districts and State Conservation Agencies.

Gentlemen, what we're doing here now, we've begun a little different procedure. We're going to recognize and stick to a five-minute rule on your presentations and on our questioning. But your full statements will be made a part of the record, and I can assure you that they will be read and scrutinized and utilized to the best extent possible.

With that, we will proceed with the panel, and we will listen to Buddy Williams.

**TESTIMONY OF BUDDY WILLIAMS, DIRECTOR, DEPARTMENT OF WATER AND SEWERAGE SERVICES, NASHVILLE, TN, ON BEHALF OF THE ASSOCIATION OF METROPOLITAN WATER AGENCIES; JOHN H. SULLIVAN, DEPUTY EXECUTIVE DIRECTOR, AMERICAN WATER WORKS ASSOCIATION; AND ROLAND GEDDES, WASHINGTON REPRESENTATIVE, NATIONAL ASSOCIATION OF CONSERVATION DISTRICTS, AND NATIONAL ASSOCIATION OF STATE CONSERVATION DISTRICTS**

Mr. WILLIAMS. Mr. Chairman, Members of the subcommittee, thank you for this opportunity to appear before you this morning. My name is Buddy Williams, and I currently serve as Director of the Nashville Department of Water and Sewerage Services. I also serve on the board of directors for the Association of Metropolitan Water Agencies, known as AMWA, and I am here on behalf of the association and the 80 million people served by our member agencies.

The Nashville Department of Water and Sewerage Services provides both wastewater and drinking water service to the people of Nashville and Davidson County. The Clean Water Act, traditionally viewed as a statute impacting only the wastewater side of my agency, has significant implications for the drinking water side as well.

My remarks will focus on some of the issues of interest and concern to the drinking water side of my agency, as well as the largest drinking water supplies around the country represented by AMWA.

The cost of complying with environmental requirements has steadily increased over the past several years for local communities. Nashville is currently in the midst of an 11-year \$740 million capital improvement program, all locally funded, for drinking water, sewer, and CSOs. Our rate payers have borne the cost through water rate increases of 260 percent since 1984 and sewer rate increases of 409 percent.

The protection of public water supplies is essential to ensuring that the Nation has safe and affordable drinking water. Reauthorization of the Clean Water Act offers the opportunity to reassess how to achieve water quality that provides for the protection of fish, shellfish, and wildlife, and the protection of drinking water sources.

Increasingly, it has become apparent to those of us at the local level that the traditional end-of-the-pipe controls for achieving the goals of the Clean Water Act are not enough and that we need to begin to address pollution in a comprehensive manner. From the water suppliers' perspective, clean, high quality source water is essential and directly related to the cost, types, and complexity of treatment processes used to make the water safe for human consumption.

For example, drinking water suppliers use—in fact, are statutorily required to use—disinfectants to kill harmful microorganisms often introduced into the water sources through agricultural and other non-point source discharges. There is currently no known disinfectant that does not create byproducts which may be potentially carcinogenic. No one would argue against disinfecting drinking water supplies because of the known risk from pathogens, but cleaner source water reduces the need for disinfection and, therefore, the potential for carcinogenic byproducts being created.

The cost to consumers of reducing risk from both pathogens and potential carcinogens will be somewhere between \$6 billion and \$45 billion, depending on the outcome of the rulemaking process. This cost for what is only one of the many drinking water regulations in place or yet to come will add to the bill that consumers are already experiencing as a result of increases in their water and wastewater bill.

With the cost of drinking water and wastewater treatment on the increase, it is essential that Congress give serious consideration to preventing and controlling what is at this time the largest cause of pollution—non-point sources. AMWA supports the development of comprehensive watershed management strategies as a valuable tool for addressing non-point source pollution.

Releases from impoundments, such as dams, can also have a significant impact on water quality. For example, research by our department into the quality of the Cumberland River has demonstrated that the single largest impact is the regulated stream flow. For an impoundment river, the agency controlling the stream flow actually causes the largest impact on quality. Watershed protection should not be viewed as a replacement for standards or as

a means of delaying implementation or present requirements, but as an additional tool for meeting water quality objectives.

Water quality reports are required every two years from each State on all the State's navigable waters, and we suggest that section 305(b), which contains this requirement, be modified to specifically include monitoring of contaminants affecting water quality alone, with the identification and ranking of the sources of contamination. The monitoring data should be of the type and quality determined by EPA to be appropriate for making analyses, estimates, and descriptions of water quality presently required by the statute. This data is essential for making informed decisions.

Another area of the Clean Water Act reauthorization with a potential ramification for AMWA members is water conservation. AMWA has supported a number of water conservation initiatives, including national plumbing product standards, and believes that the Federal and local water suppliers should generally encourage conservation. We also believe that water conservation requirements must recognize the significant regional differences in water resource availability, usage, climates, system capabilities, and system demographics.

There are many other aspects of the Clean Water Act that will impact suppliers. We're looking forward to working with you as the reauthorization continues.

Thank you for the opportunity to testify, and I'll be happy to answer any questions that you may have.

Mr. APPLGATE. Thank you very much, Mr. Williams.

Let's proceed on to Mr. Sullivan with the American Water Works Association.

Mr. Sullivan?

Mr. SULLIVAN. Thank you, Mr. Chairman, Members of the committee. As was mentioned, I'm Jack Sullivan with the American Water Works Association. Our universe of interest is the entire drinking water community. Our membership reaches out and touches about 180 million to 200 million Americans almost on a daily business.

Our real interest is in quality drinking water. To get that, we have long advocated the multiple protection barrier approach. Just earlier today you heard some discussion from one of the testifiers about cryptosporidium and the problems in Milwaukee, Wisconsin. That's an issue where the multiple barrier system has fallen down. There's been a lot of great work done under the Clean Water Act as far as pollution prevention is concerned; however, we still have a long way to go, as was illustrated by Milwaukee.

Protection of drinking water sources through the Clean Water, you'll find in our submitted testimony, is a major concern of ours. We are interested in ensuring that drinking water is given equivalent treatment under the Clean Water Act, particularly public health issues associated with drinking water. As far as all the other issues are concerned, there are several specific recommendations in testimony which we would ask you to consider in amending to the current package.

Non-point source pollution is of serious concern to us as well. In recent years, much has been documented about pollution from pes-

ticides, nitrates, and the microbial pollution that was illustrated, again, in the Milwaukee discussion earlier.

Water conservation, you'll see in our testimony. Certainly, we are for water conservation, all the aspects of water conservation, but it's not a simple issue. Therefore, we would suggest that water conservation should probably be handled off-line from the Clean Water Act or in the guise of the Safe Drinking Water Act.

We know what a contentious issue wetlands is, and I think basically all I'll say here is that changes to address the wetlands issue are needed to provide a better balance in the process that is currently in effect to both protect wetlands and all the good that wetlands do, and in the use of the wetlands necessary in both the agricultural community and in the development of Water Resources.

Compliance assistance and funding, I won't get into specific funding levels as far as what funding you should do. That's better left to the Congress. However, one of the things I think you must consider is that the small communities of our Nation are in trouble meeting environmental mandates, and, therefore, you've got to look at the issue of mitigating what the requirements are to the small communities, and in some cases that same issue extends to the large communities, particularly within large, poor urban areas.

I'll close my testimony at this particular point but would be more than happy to answer any questions during your question-and-answer period.

Mr. APPLEGATE. Mr. Geddes?

Mr. GEDDES. Thank you, Mr. Chairman, and Members of the committee. Good morning. I'm Roland Geddes, Washington Representative of the National Association of State Conservation Agencies. This morning I'm also speaking for the National Association of Conservation Districts. Both of our organizations have provided written testimony for the record. Most of our comments today are directed to the non-point source pollution sections of the Clean Water Act.

Many of our member State agencies have been designated by the governors of their State as the lead agency for non-point source pollution activities. In most other States, our members have at least been designated as the lead for agriculture, and in many other States, we have the lead for urban programs, such as erosion and sediment control from construction, stormwater management, and hydrologic modification. In nearly every State, the delivery system of the local soil and water conservation districts, which are political subdivisions of the States, are utilized in a non-point source program.

We believe that non-point source pollution is a function of land management and what occurs on the land. We are land management agencies at the State and local levels. Our comments are not new. They're based on about 50 years of experience in working with land owners and assisting them in protecting their soil and water and other resources.

Congressman Oberstar this morning mentioned Water Quality 2000. Our agencies were very active in developing the non-point source recommendations of that paper, and we are fully supportive of it.

We strongly believe that the basic principles and requirements of non-point source pollution control established in section 319 of the 1987 Clean Water Act are sound and should be continued as national policy. Under this section, the lead role for non-point source pollution, of course, was given to the State. We were required to assess our problems and to develop management programs to address them. The assessments were done. In most cases, the management programs have been written and approved by EPA. There are still a few that only have partial approval.

The assessment process is continuing through the 305(b) process of the Clean Water Act, but our group thinks it would be appropriate for any 1993 amendments to the Clean Water Act to require States to update their management programs and resubmit them to EPA for approval. These new comprehensive programs must integrate and coordinate all non-point source activities.

The plans that we developed to meet these requirements are just now starting to produce results. After approval by EPA in 1989, most States had to secure funding from State legislatures and from EPA grants. We had to employ and train additional staff and obtain new program and regulatory authority before significant accomplishments could be recorded. We think our States are on the right track, but, at best, progress for non-point source pollution abatement will be slow and expensive, given the widespread nature of non-point source problems and resource limitations.

We believe the Nation's water resources can best be protected through the development of comprehensive water quality plans on a watershed basis. Watershed plans must take a holistic ecosystem approach that addresses all sources of non-point source pollution and protects both surface and groundwater resources. These comprehensive plans developed at the local level can better identify problems and direct system-based solutions to meet water quality needs. Localized planning can provide the foundation for good investment decisions for funds.

A good State program is a mix of a number of elements, and they need to be flexible to meet the needs of that particular area in that particular State. But good programs have some common elements—they are research and development, education and demonstration, technical assistance, financial incentives, regulation and program management.

I'd like to just take one second on regulation. There's a lot of debate of whether non-point should be a voluntary program or a regulatory program. Actually, in all States that have good programs right now, we have a mix of voluntary and regulatory programs in place. Regulation may range from full-scale permit programs for concentrated animal units to back-up authority, such as non-degradation laws or bad actor laws, as has been mentioned already today. We believe the decision of which problems need to be regulated and the level of regulation required should be left to the individual States to address their own specific problems.

Funding has been mentioned this morning, and it's been one of our big problems as States try to implement the 1987 amendments. We heard Congressman Oberstar talk about the \$100 million that was authorized that we never got. We didn't even get half of it per year. We've done quite a bit of study within our States, and we

think that if you are really serious about States fully implementing these plans, you need to increase that funding to \$500 million per year for non-point source pollution for us to do all the things that have been laid out and that we know we need to do.

My time is about up. I would like to mention the Coastal Zone Management Act. We are moving forward with developing the plans required in that in our coastal States. The program is young, the implementation has not yet begun, we haven't written our plans yet. We think it should be given an opportunity to fully evolve to test the premise of enforceable measures to mitigate non-point source pollution. Until the enforceable provisions of CZMA are proven more effective than the comprehensive approaches of section 319, the enforceable provisions of CZMA should not be forced into State non-point source management plans.

We're happy with the relationship that the States have today with EPA and our other Federal partners. We think the lead for this should remain with EPA, but we think that USDA should be given the lead in providing technical assistance to States in implementing their non-point source management programs. USDA, through conservation districts, should also provide technical assistance to land managers in implementing their resource management programs.

Thank you.

Mr. APPELEGATE. Thank you very much, Mr. Geddes. You're talking about the fact that the States should have more flex in this, more authority in addressing the non-point problems. But which States do you think really have the exemplary program? Which ones are really doing something about it that's worthwhile to talk about?

Mr. GEDDES. There are some good ones. I am a former director of the Virginia Division of Soil and Water Conservation and had the lead of that program there. Obviously, I think that's a good one.

Mr. APPELEGATE. I'm sorry. Where was that?

Mr. GEDDES. Virginia.

Mr. APPELEGATE. Oh, okay.

Mr. GEDDES. Thanks to the funding from the Chesapeake Bay Program for these bay States, I think the States of Maryland, Pennsylvania, and Virginia got a little head start. There are lots of other good ones—Wisconsin, Oregon. They're all over the country. Many States are really starting to come ahead. And even the ones who lag, some of these States— I've done some work with the State of Arkansas, for example, on their poultry problems. I didn't realize what a struggle they are having to come up with the money. They want to do it, but they really need your help financially, and they're ready to roll. There are lots of good programs across the country and a lot more ready to break on the scene.

Mr. APPELEGATE. Does anybody else want to mention anything about that?

[No response.]

Mr. APPELEGATE. Let me ask you again, Mr. Geddes, the Senate considered your suggestions to allow Soil Conservation Service to prepare the delineations of wetlands for farm lands, and they

agreed to have a study done. Do you support that action by the Senate?

Mr. GEDDES. Yes, sir, I do. I was part of a committee that went out in the prairie pothole country in Minnesota, Iowa, and that area to look at this delineation. It's a very technical role, and those people are on the ground. It has to be done site-specifically. They're out there, they have the expertise, and I think that's the right place for it to be.

Mr. APPLGATE. Mr. Sullivan, I think this is sort of a procedural type of thing, and I think it's something that we get into on a lot of different subject matter, and it sometimes becomes a problem, but the comments you make that the Drinking Water and Clean Water Acts should work closer together, with which I agree—all water is part of the hydrologic cycle, though the House's committee structure wasn't set up based on that cycle, unfortunately. In the Senate, both drinking water and clean water do come under the same committee. Has it made it easier to get a consistent policy for the aims of both acts there, as opposed to the House? What are the problems that we have? I'd like to see it where there would be more jurisdiction where you could work these things together.

Mr. SULLIVAN. I think, as we indicated in our written testimony, there needs to be an overlap between the laws, and that needs to be written into the law in your amendments of the Clean Water Act. Does it work better in the Senate? It's hard to say that, simply because what comes out of Congress comes out as a single entity rather than a package between the two bodies. Certainly, we find it easier perhaps to work with the Senate on those issues because we don't have the jurisdictional issues to contend with.

However, I emphasize what I said earlier. Safe drinking water or high-quality drinking water is not just a responsibility of the drinking water utility manager. It is a responsibility of everyone, and it must be done through a multiple barrier system. You have to have pollution prevention, and you have to have, all the way to the faucet, controls on what kind of plumbing is used. The drinking water utility manager can't do it all. He's been expected to for years, and people think that they're going to turn on the tap and get absolute pure water, high-quality water. As we've seen in Milwaukee and other instances, that doesn't happen all the time.

Mr. APPLGATE. That's correct. Thank you very much.

Mr. Gilchrest?

Mr. GILCHREST. Thank you, Mr. Chairman.

I guess any of the three can answer this question, and it deals with a comment Mr. Sullivan made about not enough flexibility and balance in our wetlands policy up to this point as far as preserving wetlands and allowing agriculture and, I suppose, development to continue. If we take a watershed approach to the Clean Water Act and to wetlands, isn't there going to have to be—now, I understand the balance, and I understand the flexibility, but to a degree, do you see, if we take the watershed approach and if we accept the technical and scientific advice about the value of wetlands and their function, especially, for example, in the Chesapeake Bay, where much of the non-point source pollution is part of the problem, is there going to have to be some give, some sense that a watershed approach is going to have to require communities, in

their management plans, to designate some area as non-developable if it's a part of that watershed area?

Mr. SULLIVAN. Conceivably, yes. That is part of the development of the watershed planning process and the total integrated resource planning concept that is a part of it where we look at total water management. That's an issue we have fully supported. We were involved in Water Quality 2000 deliberations as well. I think that's the way we're going in the future. But I don't think you should kid yourself that that's going to be a simple solution, even if it's enacted in Federal law. There are huge institutional barriers to circumvent.

As you know, we've been working at Chesapeake Bay clean-up for a number of years, and we still have a long way to go in that area. There are many areas of the country where you don't have any structure at all to work on a watershed basis. Some places you're going to have areas where you're going to have conflicts between the watershed district or the watershed management group and the local community, and those all have to be resolved as part of the institutional controls and arrangements.

Mr. GILCHREST. I guess it is then incumbent upon us to move forward and use the Chesapeake Bay Program as a—would you say, Mr. Geddes, that the Chesapeake Bay Program can in fact act as a model?

Mr. GEDDES. It can for a lot of things. I was chairman of the non-point source program—of the entire Chesapeake Bay Program for several years. We know how to solve a lot of our problems from agriculture and some other things. Population growth and development, though, the kind of land use changes that we've been talking about, we don't have the answers to that in the Chesapeake Bay, either. We're working on it with several different kinds of legislation, particularly in Maryland and Virginia, but we don't have all the answers here.

I think we have a good model for non-point source pollution in general. For the control of population growth and development, it's a place to look and see some things that are happening, but to find answers, I don't think so.

Mr. GILCHREST. Then, the way you described it, it is time now to begin thinking about managed growth in all areas of the country, especially around large estuaries like the Chesapeake Bay. No matter how difficult it is, it's a challenge that must be met as soon as possible, I would imagine, rather than to let it go. I don't want to make any derogatory comment about any area of the country, but the Eastern Shore of Maryland and certain parts of Virginia could begin to look like Staten Island if there is no management growth plan.

Thank you.

Mr. APPLEGATE. Thank you very much, Mr. Gilchrest.

Mr. Poshard?

Mr. POSHARD. Thank you, Mr. Chairman. Just a couple of questions.

Mr. Geddes, the Association of Conservation Districts, in your testimony, supports a flexible no-net-loss wetlands policy, "highest priority should be given to protecting those wetlands with the most significant values and functions" and so on, and you say that the

Soil Conservation Service, USDA, should be in the forefront of recommending responsibility for wetland identification and so on. I'm just wondering about how you see the role, then, of enforcement with regard to your recommendations. Where does EPA fit into the scheme of things?

Mr. GEDDES. Well, right now, of course, enforcement is with the Corps of Engineers, with EPA having veto authority over the Corps. I happen to be a State representative, and I really think that the model that you all put in place for non-point source pollution in 1987 of requiring States to assess their non-point source pollution and develop a program to stop it or to control it would have worked much better for wetlands. Had you required States to identify their wetlands and develop a program to protect them and let the enforcement be at the State level, I don't think we would be in the mess we're in today in wetlands. That's my opinion.

Mr. POSHARD. So we should come up with a definition here, basically, and leave it up to the individual States to carry that out in terms of enforcement?

Mr. GEDDES. Well, subject to EPA oversight, and that's a major part of—I didn't put that in my non-point source testimony, but when these plans are approved—we're asking States to run it, but subject to oversight of EPA. And I agree with Congressman Oberstar, if a State just flat won't do it, then you have to have some kind of back-up to come in on a Federal basis.

Mr. POSHARD. I'm assuming, I guess it was Mr. Sullivan, one of you, are you in agreement, then, with the Hayes bill, basically? Are you familiar with that?

Mr. SULLIVAN. We have reviewed the Hayes bill. We don't agree with all the aspects of the Hayes bill. We do feel that there needs to be some kind of evaluation process on wetlands. However, we're doing some of our own independent research on wetlands, and we'll make our call when that's up for discussion again.

Mr. POSHARD. But you do agree that all wetlands are not of the same value—

Mr. SULLIVAN. Correct.

Mr. POSHARD [continuing]. And, therefore, do not deserve the same standard level of protection.

Mr. SULLIVAN. That's correct.

Mr. POSHARD. Okay. Thank you.

Mr. APPLGATE. Mr. Horn?

Mr. HORN. Thank you, Mr. Chairman.

I've enjoyed your testimony. Two of the most controversial wetlands permit vetoes involved proposed water supply projects. That's Two Forks Dam in Colorado and Ware Creek in Virginia, where you have a lot of experience. Does section 404 currently provide enough deference to the water supply management officials in the areas to meet public water quantity and quality?

Mr. SULLIVAN. I'd be more than happy to take a shot at it. First of all, the 404 process—there are literally thousands of 404 permits that are handled on a routine basis by the Corps of Engineers and never really come to the forefront. Normally what happens is the political process intervenes at some level, and it becomes a political issue more than a scientific issue or a straight economic issue. In the two cases you mentioned, that became a concern.

If you look at past history on 404, water supply, because of the nature of water supply as a public health-type issue, had never been a veto issue in the past. Now all of a sudden we have some 19 or so, major water supply reservoirs that have become political issues.

One of the things that needs to be considered is the tradeoffs in that program. If we're going to make those as political decisions, then you have to look at the tradeoffs as well, and all the factors have to be considered—the total integrated resource planning process has to be looked at. Yes, you do have to consider conservation, yes, you do have to look at future needs and all those sort of things, but if it becomes a political issue, then you have to look at all the political tradeoffs too.

Mr. HORN. Would you like to add to that at all based on the Virginia experience?

Mr. GEDDES. Well, that's a tough one. The Ware Creek issue, of course, got its permit from the State Water Control Board as a water quality certificate first. Then the 404 process was lengthy with lots of hearings on it, and the Corps issued its permit, which we thought was appropriate. Then EPA came back and vetoed it. We had testimony on such things as we ought to tow icebergs up the James River as an alternative. Some of them got pretty hard.

The alternatives, in my opinion, in many cases are far worse than building Ware Creek, but it's a tough call, and, of course, politics get into it. But these are hard decisions. I don't know that I can fault EPA. I think that we need to get along one way or the other with it.

Mr. HORN. In terms of the 404 process and processes within that broad outline, would you change those in any way? And if so, what would you do?

Mr. GEDDES. Well, I wasn't personally heavily involved in that, but from the outside looking at it occurring, it seemed to be a very appropriate process to me.

Mr. HORN. So you think it's a fairly rational process?

Mr. GEDDES. Yes, sir.

Mr. HORN. With various factors included at each stage?

Mr. GEDDES. I think so.

Mr. HORN. Any other comment on that? Any disagreement?

Mr. SULLIVAN. I think for that size project, it was probably done appropriately. I think one of the things that has to happen in the 404 process is we have to simplify the process for those small issues that come along. Now, a lot of them do move rather swiftly, but it is a rather bureaucratic process and a very intense bureaucratic process.

Mr. HORN. Could there be a two-track process based on complexity of the project?

Mr. SULLIVAN. Perhaps.

Mr. HORN. What's the maximum length of time you think ought to be involved in running the hurdles of that process?

Mr. SULLIVAN. I hesitate to really give a good guess at what the time line would be without looking at it further.

Mr. HORN. Well, if you have some thoughts on it, perhaps you'd like to file it for the record at this point. Thank you.

Mr. APPLEGATE. Thank you very much, Mr. Horn.

Gentlemen, thank you very much for your input. It was very educational. We will be calling upon you at some point in the future, hopefully, and we may need some more of your input, and if the possibility comes up, we may have questions that we will submit to you, and we would appreciate answers to those.

Thanks again.

Mr. APPLGATE. On our second and last panel, we have Mr. Szabo, representing the Wetlands Coalition; Milan Yager, National Home Builders Association; Scott McElwee, Associated Builders and Contractors; Robert Bowen, Associated General Contractors of America; and Gerry Dorfman, National Utility Contractors Association.

Gentlemen, welcome to the committee. Thank you for being here. We'll begin with Mr. Szabo.

**TESTIMONY OF ROBERT G. SZABO, COUNSEL, NATIONAL WETLANDS COALITION; MILAN P. YAGER, LEGISLATIVE DIRECTOR, NATIONAL HOME BUILDERS ASSOCIATION; SCOTT McELWEE, McELWEE-SCARBOROUGH CONSTRUCTION, GIBBSBORO, NJ, ON BEHALF OF ASSOCIATED BUILDERS AND CONTRACTORS, INC.; ROBERT L. BOWEN, PRESIDENT, BOWEN ENGINEERING CORP., INDIANAPOLIS, ON BEHALF OF ASSOCIATED GENERAL CONTRACTORS OF AMERICA; AND GERRY DORFMAN, PRESIDENT, DORFMAN CONSTRUCTION CO., WOODLAND HILLS, CA, ON BEHALF OF THE NATIONAL UTILITY CONTRACTORS ASSOCIATION**

Mr. SZABO. Mr. Chairman, thank you very much. My name is Bob Szabo. I'm Counsel to the National Wetlands Coalition. I appear today on behalf of our chairman, who was unable to attend because of a prior commitment.

The members of the Coalition are very pleased, Mr. Chairman, with the recent statements by leaders of this committee that the committee would likely address this wetlands policy issue in the context of the Clean Water Act. We very much agree with Mr. Oberstar's statement earlier today that this has become a very broad program on a very narrow legislative base. We also agree with the statement by Mr. Barlow that perhaps new approaches need to be explored in the wetlands policy arena.

We're also pleased to note that Senator Baucus has made a commitment similar to the commitment of the leaders of this committee that the issue will be dealt with during Clean Water Act reauthorization in the Senate. We are also pleased to note that the White House has indicated it would develop a task force of cabinet-level officers and others to try to find consensus on this difficult issue.

Our Coalition certainly pledges our cooperation in any process like that. This Coalition was formed, Mr. Chairman, for the purpose of participating in this debate. It is a single-purpose group. It is a membership-driven and-governed group. We thought we were going to participate in a debate over no net loss of wetlands. That debate changed over time due to things that have occurred.

We support the conservation, and enhancement of wetlands, but we also believe that the program that is there today is not a pro-

gram that reaches that result, and the program is creating difficulties that need to be addressed, we think, by this committee.

Mr. Chairman, we believe that the problems that have occurred in the last last few years with respect to this program, that have caused it to move from being a minor irritation to a major controversy were caused by three basic actions that were taken without any Congressional vote or without any public rulemaking, that being the pledge of no net loss, which has never been adopted; the delincation manual, which was adopted without any public input; and, finally, something that people don't focus on very much, which is the Memorandum of Agreement of February 7, 1990, that changed this program from being a program that attempted to balance different interests to a program that attempts to "avoid" wetlands.

When avoidance became the pivot of this program, that new concept, connected with the fact that 75 percent of wetlands are privately owned, created a conflict that is unavoidable. That is, if people are to avoid using wetlands within private ownership, the cries you have heard about takings of private property are almost unavoidable.

We believe there's a better way to approach this program, and we do support the existence of a President's program in this area. We believe the better way to approach the program is set forth in H.R. 1330, the Hayes bill. H.R. 1330 certainly is not perfect, but it, as an approach, moves in the right direction. Just very quickly, Mr. Chairman, we think the bill does a good job of addressing exactly what should be considered to be a wetland, not from a scientific perspective, but from a matter of public policy. Which wetlands will be subject to the Federal power to regulate? That's really the issue of what is a wetland in this program.

We think the program should employ classification or regional diversity or some such concept that focuses the power of the Federal Government on the most valuable wetlands. We believe that the program should be expanded to cover some activities that are not covered today, including draining, excavating and channelizing a wetland. We believe that if the program is made more flexible, you can avoid conflicts with land owners and you can enlist land owners much in the way Mr. Barlow was speaking today. Of course, Mr. Chairman, you're correct, what some folks are doing in western Kentucky is probably not legal under the current 404 program.

Finally, Mr. Chairman, we believe the concept of mitigation banking and compensatory mitigation is a critical element that can facilitate the compromise that's necessary to have development and yet have preservation of wetlands resources. We also believe that the role of the States should be enhanced in this program, as was the original intent of Congress.

Mr. Chairman, thank you for the opportunity to testify before you today, and thank you for your interest in this issue.

Mr. APPLEGATE. Mr. Yager?

Mr. YAGER. Good morning. My name is Milan Yager. I'm Legislative Director for the National Association of Home Builders. We're an association of over 160,000 member firms engaged in all aspects of residential construction. This morning we want to focus our com-

ments strictly on section 404, the Wetland Regulatory Permit Program.

The current system for protecting wetlands does not work. It lacks balance between needed protection of wetlands and the need for economic development and jobs in our local communities. Furthermore, the current system is a bureaucratic nightmare, full of overlapping jurisdictions, costly delays, burdensome confusion, and inefficient regulations. We are encouraged, though, in recent weeks, as my colleague has just said, by comments by Mr. Mineta and others that now is the time, regardless of how challenging the task, to address wetlands reform.

The first challenge will be to establish a clear congressional definition of what land shall be a Federal jurisdictional wetland. By defining waters of the United States, we're not asking Congress to consider specific criteria for hydroponic vegetation, hydric soils, or wetlands hydrology. Leave that to the scientists. However, we do believe it is responsible, even necessary, for Congress to require that lands subject to Federal jurisdiction should have independent indicators present for all three wetland parameters. Congress should also require surface water during the growing season. These two changes alone would return the regulatory program to regulating the types of lands that most of us call wetlands—swamps, marshes, and bogs.

Issue two. It has often been believed that all activities undertaken within a jurisdictional wetland require a 404 permit; however, this belief is wrong. Many activities that are specifically harmful to wetlands are not regulated. If our Nation's remaining wetland resources are to be managed, the Clean Water Act needs to be amended to include as regulated activities draining, channelization, and excavation.

Issue three. If the section 404 program is to be effective and efficient and reformed to manage our Nation's wetland resources, the program must be given to a single Federal agency to administer. Today no other Federal regulatory program gives two agencies direct authority over the same permit. Establishing a single agency will not only bring efficiency to the program and reduce cost and confusion to applicants, but it will place total responsibility and accountability with a single agency. No longer will one administrator be able to point to another and claim that it wasn't their responsibility to promote wetlands protection, research new restoration techniques, or undertake aggressive mitigation banking.

In this regard, we urge the Congress to vest not only the authority to regulate wetlands, but also the mission to protect this Nation's wetland resources, with the Army Corps of Engineers, and we'd give this mission to the Corps because of their extensive network of district offices and their larger field staff necessary to run a regulatory program that involves over 75,000 local permit actions each year.

Issue four. Since 1972 the section 404 program has regulated all Federal jurisdictional wetlands equally. In recent years EPA, wetland scientists, and environmental groups have begun investigating classification of wetlands into a few broad groups based on their functional values. Such investigations are based on the diversity of wetlands throughout the United States and the foresight toward

maximizing wetlands management to serve the larger purpose of watershed resource management.

This change in focus can only be achieved if wetlands are considered a managed resource. Wetlands of exceptionally high functions and values to a watershed may merit a management strategy of avoidance. A significantly different watershed management strategy is appropriate for abundant or marginally functional wetlands. The fact that a classification system will be difficult to establish and administer does not change the fundamental reality that we are serious about resource management.

Issue five. As anyone knows who has applied for a 404 permit, the costly and burdensome regulatory permit process is full of individual decisions upon individual decisions upon individual decisions. Even with small, relatively simple projects, disagreements arise. Sometimes these disagreements can be resolved, but many other times the applicant is left with few options—withdraw their application, modify the project and reapply, or if, and only if, the application has been formally denied, you have a right to bring suit against the Corps or EPA. At no time does the Clean Water Act provide the applicant an administrative appeal. This is wrong, and we urge the committee to change it.

Finally, the concept of mitigation banking. It's similar to an ordinary bank account. The bank owner creates, restores, enhances, or preserves wetlands in advance of a need. The wetland values are quantified, and the bank owner would be able to sell these credits. The idea of mitigation banking is not new. The Fish and Wildlife Service has used it since the early 1980s. The current case-by-case, site-by-site approach to mitigation leads to a series of small unrelated mitigation projects scattered throughout a region. They are often too small and disjointed to maximize wetlands benefits, and they sometimes suffer from inadequate monitoring and maintenance. If this Nation is to achieve a goal of no overall net loss of wetlands or to reach beyond to the goal of increasing the Nation's wetlands base, we must address the issue of mitigation banking.

Mr. Chairman, I appreciate your time and your interest, and we look forward to answering questions you and the other Members of the committee may have. Thank you.

Mr. APPLGATE. Thank you, Mr. Yager.

Mr. Bowen?

Mr. BOWEN. Thank you, Mr. Chairman, Members of the subcommittee. My name is Robert L. Bowen. I'm President of Bowen Engineering Corporation and a general contractor from Indianapolis. The AGC is a national trade association of more than 33,000 firms, including 8,000 general contractors. We build highways, bridges, buildings, factories, and sewage treatment plants. In short, we build America.

The AGC respectfully urges that the subcommittee reauthorize the State revolving fund in the amount of \$3.4 billion per year through the end of this century. Additionally, we urge the subcommittee to authorize funding for additional programs, such as the stormwater run-off, the combined sewer overflow, in the amount of an additional \$1.6 billion per year. The SRF Program has been highly successful. A failure to reauthorize these funds

today could undermine the success we've achieved over the last 20 years.

A 1990 EPA survey projects \$80 billion in needs for new sewage treatment plants and sewers. The 1992 estimate, which is not completed yet, we understand is estimated at \$120 billion needed. There are many old plants built in the 1960s and 1970s that are becoming beyond their useful age, and they're going to need to be upgraded and/or replaced. Apogee[?] Research has estimated the cost of those plants at \$60 billion. So you're talking about a total of \$180 billion in needs to build new and replace sewage treatment plants and sewers throughout the United States.

We believe the SRF Program is the way to go. These localities are required to repay their loans and are, therefore, more innovative. They reduce costs, they develop user fees, and they operate the systems more efficiently. Many States are even implementing leverage options to increase the amount of funds for their new sewage treatment plants.

The goal of the SRF is to be self-funding, but today we don't have enough funds yet to make the program self-funding. Now is not the time for the United States Government to abandon its commitment to clean water funding. For this reason, AGC urges Congress to fund the program in the amount of \$3.4 billion per year through the end of the century.

AGC also urges that funding be provided in the form of Title VI capitalization grants to the SRF, not Title II grants for specific projects. We believe that funding specific projects undermines the very fabric of the loan program. If you have communities who can fund their plants through the grant program, they'll simply wait out the system and wait for the Government to bail out the program.

AGC realizes there are many small impoverished, disadvantaged communities unable to repay loans regardless of the interest rate. We recommend that these communities fall under and be included in the Rural Development Administration Program. That program is developed for grants and loans to rural areas, and we would like to see wastewater treatment included in that program.

In conclusion, AGC believes that the Nation's Clean Water Program should be viewed for what it is: an investment in the future economic viability of the United States of America. Each \$1 billion invested in sewage treatment construction provides 50,000 jobs, and that's a conservative number. Most importantly, wastewater treatment creates an opportunity for economic development in communities by allowing new industries and new homes to be built.

Wastewater facilities are a fundamental element of our Nation's infrastructure, which is necessary to economic vitality. At this time, when our global competitors are recognizing the importance of infrastructure as the vital foundation of economic growth, the United States must provide needed capital investment to remain competitive. AGC urges Congress to reauthorize the Clean Water Act and to provide continuation of the capitalization funding.

Thank you very much.

Mr. APPLGATE. Thank you.

Mr. Dorfman?

Mr. DORFMAN. Thank you, Mr. Chairman, Members of the committee. My name is Gerry Dorfman. I'm President of Dorfman Construction Company, Woodland Hills, California, and President of NUCA, the National Utility Contractors Association. I represent about 2,000 contractors and suppliers, and what we do is what we're here about today. We construct and repair sewers, storm drains, water mains. That is our expertise.

Before I start, Mr. Chairman, I would say two and a half hours ago you said somebody left you that little pipe, and I must confess we are the somebody, and we'll get into that in a minute.

My testimony today is to take you through a couple of job sites, because that's what my expertise lies in, in doing the work, and telling you what we are seeing out there, what our contractors throughout the country—not only in California, but everywhere—are seeing. My testimony is about rebuilding our wastewater infrastructure, is about protecting our freshwater supply, is about saving our water.

Let me lead by example. Antiquated. What is antiquated? That is combined sewage overflow systems, over 1,100 throughout the country. From 1975 through 1984, our firm constructed two large projects in northwest Oregon. One of the systems was a combined sewage overflow, which, when you get periods of inclement weather, rain gets into the sewer system, and you have to stop work. Members of the committee, how many times can I tell you that our work was stopped while our people waited for the pipeline to discharge the water and sewage mixture into the Great Columbia River or the beautiful Willamette? That's antiquated.

What is failed? Failed is a system like I constructed in a rural community in northern California three and a half years ago, a federally funded project where the sewer system, septic tank, leach system had failed. Before bidding the job, I had to go inspect it, find out where the new septic tanks were going to go in the back yard and the front yard. The second house I knocked on to get permission to go into the back yard to see where the septic tank was to go, the lady said, "You can't go in there because of the standing water." I said, "Well, I have to see it. I have to know what the improvements are." She said, "Be careful." That wasn't the only house. Many, many homes that I went into, in the back yard you could not walk for the standing sewage. That is a failed system.

What is deterioration? Look to my right on the easel, similar to what you have, Mr. Chairman. Here is a pipe. That pipe is 100 years old. It's from a domestic water system in service in a small community in Rhode Island where the housewives have to boil their water before using it. That is a deteriorating system. That pipe is 100 years old. This pipe is 50 years old.

One part that isn't in my testimony is a project that we bid about 10 days ago in San Diego. I would call it a potential disaster. We were not the successful bidder. It was a contract to rehabilitate an eight-and-a-half-foot-diameter pipe built in the early 1960's, because I know my father bid on the job. In the specifications, the city required—and this was a clean water program—that the contractor include an emergency response program. Why? Because that pipe, eight and a half feet in diameter, is potentially ready to

collapse. That pipe lies about 1,500 yards from San Diego Harbor, and that is where we are with our infrastructure today.

The problem we have in our own industry trying to tell you folks what's going on is because it's kind of out of sight. If you want to take a bridge and they close it because they recognized a weakness in a strut, you know that. If your car hits a chuckhole, you know it. If you see the back-up on the freeway, people talk about mass transit. But who knows about what's underground? Very few of you, and that's what I'm trying to sell. It's out of sight, it's out of mind. Probably the housewife in Pawtucket, Rhode Island, knows, because she boils the water. Probably the children in the small rural community of northern California know, because they can now use the back yard and play or the family can barbecue.

We have a lot of work to do out there. We ask your support in reauthorization of the Clean Water Act.

Thank you very much.

Mr. APPLGATE. Thank you very much, Mr. Dorfman. Just taking a look at this, counsel just asked me, "What is all this stuff in here?"

Mr. DORFMAN. Corrosion, encrusted sediment from over 50 years. Impurities in the water that cling to the pipe.

Mr. APPLGATE. How is that going to be eliminated?

Mr. DORFMAN. Well, you're going to put in a new water system.

Mr. APPLGATE. What happens in 50 years from now?

Mr. DORFMAN. Well, there are improvements in the pipes that are used now that probably address most of those issues.

Mr. APPLGATE. So through a new and improved system, that would alleviate a lot of that, probably extend the life of that pipe for maybe twice as long or more.

Mr. DORFMAN. Yes, sir.

Mr. APPLGATE. Mr. Szabo, you talked about the wetlands and probably that we need a new definition to more finely define what wetlands would be. What do you see coming out of the NAS delineation study? Do you have any idea at all what they might be doing? Is it a good idea?

Mr. SZABO. Well, we always think studies are good ideas. However, this one has not yet begun, as we understand it. The scientific panel has not yet been established. I think the latest estimate is they won't bring anything back for at least a year, until next summer.

We think there are two aspects to the question. One is, scientifically, what is a wetland? I think that's developing science that will get better over time. The second question is what you, as Members of Congress, think should be considered to be a wetlands for purposes of activation of the Federal power. So we think you can make that judgment without waiting for the study.

Mr. APPLGATE. Okay. I just wanted to throw that out.

Mr. McElwee?

Mr. MCELWEE. Thank you, Mr. Chairman, and Members of the committee. My name is Scott McElwee, with McElwee-Scarborough Construction Corporation. Our company, based in Gibbsboro, New Jersey, has built water and wastewater treatment facilities in both the public and private sectors for the past 30 years. As a member of the Associated Builders and Contractors'

National Infrastructure Committee, I appreciate this opportunity to comment on reauthorization of the Clean Water Act.

ABC represents over 16,000 merit shop contractors, subcontractors, material suppliers, and related firms. With 75 percent of construction done today by merit shop contractors, ABC is proud to be their voice.

ABC believes inadequate and insufficient water and wastewater treatment facilities represent a large segment of the clean water problems facing our Nation today. According to the EPA, there is a need for over \$100 billion to meet the current wastewater treatment demands alone, and this will likely continue to rise. The cost of insufficient attention to clean water issues are indisputable. Our Nation's water quality and environmental infrastructure could not be more vital to our health, safety, and overall quality of life.

Unfortunately, the \$18 billion funding level committed to in the 1987 act to capitalize State revolving loans has not been met over time. ABC believes the Federal Government must meet its original commitment. President Clinton's budget for fiscal year 1994 of \$1.2 billion, however, falls well short of the anticipated \$2 billion funding level for this program.

With the Federal Government's role in providing funding for water and wastewater treatment needs scheduled to end in 1994, we support continued Federal funding beyond 1994 to further capitalize State revolving funds, and we anticipate the Administration's approval of a new four-year reauthorization. ABC would also endorse a limited grant program to provide necessary treatment facilities to disadvantaged communities without the capacity to support large capital investments. In addition, any funding plan should consider that States may have to impose user fees to meet their share of requirements.

Another major concern of ABC members related to reauthorization of the Clean Water Act is wetlands. As contractors, our members have experienced significant problems with wetlands regulations. ABC recognizes the environmental value of wetlands. We wholeheartedly support efforts to protect legitimate wetlands, but believe a more streamlined and efficient process is in order.

Since the issuance of the 1989 Federal wetlands manual, our members have experienced the costly brunt of improper wetland delineations. The inconsistencies allowed by the 1989 manual undermined its intent to provide a uniform national procedure for wetland identification and delineation. We are hopeful that the Clinton Administration will take into consideration the confusion which resulted since adoption of this manual. We are eager to work with the Administration to revise the manual and further streamline program requirements. The previously proposed changes to the 1989 manual should still be considered in the overall framework of wetlands policy.

ABC believes the current wetlands regulatory system could be improved by streamlining the permit process, establishing an inter-agency technical committee to address wetlands classification, implementing mitigation banking, and increasing the State role in the 404 program. ABC believes all authority for wetland permits should be transferred to the Corps, with no EPA veto authority. Additionally, establishing a clear permitting process with an out-

lined time table is critical for necessary planning functions. To further expedite the permit process, ABC believes the use of general permits should be expanded.

Recognizing all wetlands are not equal, ABC supports a priority ranking system to classify wetland areas and appropriate use. Distinct definitions for wetland areas must be articulated, and regional differences must be taken into account. We believe any effort to improve wetland management should consider the use of a mitigation banking system to restore, enhance, or create wetlands when appropriate.

ABC believes compensation must be made available to land owners whose land is significantly devalued or deemed unusable under wetland classification guidelines. With three-quarters of the Nation's wetlands being privately owned, it is imperative to enact a rational and reasonable policy which balances protection of valuable wetlands with the rights of private property owners.

Finally, ABC believes it is vital for States to play an active role in developing and defining wetlands policy. States should be encouraged to assume greater responsibility of the 404 program. States should also be allowed to tailor their classification program to fit their individual circumstances. In cases where applicable, joint Federal and State permit review should be considered. In all cases, however, the method of delineating wetlands should be consistent between State and Federal programs.

On behalf of the ABC, I again want to thank the committee for the opportunity to be here today. I will be happy to answer any questions you may have.

Mr. APPLEGATE. Okay. Thank you very much. I appreciate that and all of your input.

Let me ask this question of a couple of you who had talked about wetlands, and I think there was one reference as to one agency authority rather than having the dual. Would you be happiest with the Corps or the EPA, or which direction would you like to go?

Mr. SZABO. I'll try to answer it first, Mr. Chairman. I think it's abundantly clear none of them are the best choice. However, given the options on the deck today, our Coalition would choose the Corps, primarily because they have experience and because they have field personnel. In my home State of Louisiana, there are no EPA people in the field. I think, from what I can understand, that's generally true around the country. There aren't many field personnel.

I think all the members of our Coalition, most of which are not in agriculture, are very sympathetic to the Soil Conservation Service because there's an individual in each county or parish that's with the Soil Conservation Service. However, we didn't think Congress would make that radical a choice, so we limited our view to the Corps of Engineers.

Mr. YAGER. We share the comments that Bob just made as far as the National Association of Home Builders goes. The fact is that this is a program that involves very small land owners. As I mentioned earlier, there are 80,000 individual permits issued a year. These are people that need to be able to go and discuss their land, their project with a local official. EPA does not have the personnel

and the district offices to do that. Once again, we share the thought that the Corps is probably the best alternative.

But it needs to be a single source, because, Mr. Chairman, it's not only just getting the permit, but what we were trying to express in our statement was that we need to have a single agency that's got the mission of wetlands, because it's more than just giving a permit. It's somebody out there advocating wetlands protection, it's somebody out there advocating education, restoration, mitigation banking. Right now EPA has got the charge of enforcement, the Corps has got the charge of permitting, but no one is doing the task in between, and a single agency will have that mission.

Mr. APPLGATE. Yes, I believe that's correct. I think that's exactly where it ought to be, and I think there ought to be a little bit more common sense invoked into that whole wetlands study and definition.

You had mentioned, I think, Mr. Bowen, about greater funding for the wastewater treatment facility construction and rehab programs and all, which I don't think anybody really objects to, except we're not sure where we're going to get the money as far as the integrity of the State revolving funds, which we believe in very strongly. I was very supportive of the President's proposition in the stimulus plan to move \$845 million from 1994 to 1993, get into the construction season, help these communities to meet the mandates of the EPA. Unfortunately, that didn't pass, and I thought it was necessary.

But I do think that the State revolving funds need to be addressed at at least \$2 billion, at the very, very minimal amount, and perhaps more, and also addressing the clean drinking water, which I think is absolutely imperative, and we should include that into the State revolving fund under different subtitles, but I think it's important.

Let me ask you whether any of you have given thought to what we've been hearing as a proposition—the principal subsidy. In other words, I was interested in trying to direct some grant monies back to small communities particularly, and this is not to drive a wedge between big and small, but I happen to represent small, and small is big all over the country. So you take and offer some grants back to help in technical assistance or designing and different things like that, and the grant program itself doesn't go over as a big hit with a lot of people, but the idea of the principal subsidy so that you can utilize the monies that are in the fund and take the interest from that and put it back into another fund, which then could ultimately be divvied out back to, say, areas of 10,000 or less either in grant form or no-interest loans or something like that.

Has anybody given much thought to that, if that sounds like a pretty good idea? Or do you know anything about it at all?

Mr. BOWEN. Would you include that in the SRF Program?

Mr. APPLGATE. Yes.

Mr. BOWEN. We suggested working through the Rural Development Administration for smaller communities.

Mr. APPLGATE. Well, that program exists, too, and we'd like to see that retained, too. But this could offer some additional monies

that would help some of the smaller communities, so that there would be monies made available from the use of the payback of these other monies.

Does anybody have any comments on any of it? Is anybody familiar with any of it?

Mr. YAGER. Mr. Chairman, we just don't have a policy on that. Certainly, the rural communities are having difficulties, and there needs to be something addressed there, but right now we don't have any policy on that proposal.

Mr. APPLGATE. Yes. Because we know what the big problems are in the big cities, and if you go into New York and some of those places, it's monumental. I've talked to people from the Boston Harbor. They're talking \$3.5 billion, which, you know, there just isn't enough money. I know that they're in dire need and in terrible shape, as a matter of fact, and how we address that, and we're talking maybe in terms of \$100 million, which is a relatively small amount of money to them. To us in our small areas, \$100 million is a lot of big bucks and could handle a lot of small territories.

Well, that's what I had.

Mr. Gilchrest?

Mr. GILCHREST. Thank you, Mr. Chairman.

I have quite a few questions, and if you just want to say yes or no, that's okay.

Mr. Dorfman, I was curious, especially the pipe that's on the table there, can you make plastic pipes and have them be safe so that there is—would there then not be the same type of build-up?

Mr. DORFMAN. Yes, you can, and also, of course, that pipe being 100 years old, you have other pipes—ductal iron and lined pipes—that compete with plastic that also can do that.

Mr. GILCHREST. I see.

Mr. DORFMAN. The answer to your question is, yes, you can with a plastic pipe.

Mr. GILCHREST. Thank you.

I guess, Mr. Szabo and Mr. Yager, you talked most about H.R. 1330—or, actually, Mr. McElwee. You three mentioned specifically, I think, in your testimony H.R. 1330, and I'm just curious, briefly, you mentioned classifying wetlands as far as their value, which ones to preserve, which ones not to preserve, and so on. Who would be the—and I think you might have said us. But who would determine that classification?

Mr. SZABO. Well, let me rearticulate what you said. It wasn't that they would not be protected. It's the level of protection they would receive, from the most rigid to the least rigid.

Mr. GILCHREST. I understand that, but who would determine the classification?

Mr. SZABO. I would think you, as the Congress, should make some initial policy judgments, but you should direct an agency to do that, whichever agency you make responsible for the wetlands program.

Mr. GILCHREST. Suppose we designated the National Academy of Sciences to make that classification. Would that be—I'm not being cynical or—

Mr. SZABO. The National Academy of Sciences is not an agency of the Federal Government.

Mr. GILCHREST. Right. But suppose we, as Congress, designated NAS to do that study, or suppose we designated EPA. Do you have a suggestion for an agency that could do that?

Mr. SZABO. Well, I think you should do it through the Corps, and you should enlist a multiagency task force, as was done on the manual, both manuals, to try to achieve a cross-fertilization of ideas, but I would not give it to an agency that's not under your direct jurisdiction and your direct supervision.

Mr. GILCHREST. But you do agree that there should be some science to the development of that classification?

Mr. SZABO. Well, I think all the—you know, the Corps came up with guidelines in 1987, after five years of effort. That was based on science. The manual of 1989 was based on science. People just didn't agree with the judgment, what were based on that science. The manual of 1991 was based on science, but, again, people didn't agree with the judgments that were based on that science. So I think all of these judgments have been based on science and clearly science has to be involved in these decisions.

Mr. YAGER. Congressman, first off, we think any type of categorization, you, the Congress, needs to set that policy, as we do with fishable, swimmable, and other sorts of things, set the parameters that you want done. Then it needs to be turned over to a Federal agency to be executed. They need to turn to the scientists and to the public to determine how that should be done.

The problem with going to the National Academy of Sciences and others is that we don't have an Administrative Procedures Act. We, as the public, have no way to participate in that process. Congress, as we do with every other program, lays out the policy matters, and we turn it over to our agencies, the people that are experts in these areas, to bring in the science about how to execute that policy.

One of the concerns we have so often with the 404 program is that the public is left out. When the 1989 manual was developed by 11 Federal scientists, the public was not even—

Mr. GILCHREST. Excuse me. I don't mean to interrupt, but I do have another question.

Mr. YAGER. Okay.

Mr. GILCHREST. I agree with you, I think the administration of the wetlands program has been really abysmal in a lot of areas, and we do need to clear it up. An NAS study is just a recommendation to us, as Members of Congress, to develop a policy based on their understanding of what a wetlands is.

In H.R. 1330 there is a section that talks about classification, A value, B value, whatever. In H.R. 1330 it's my understanding that only a percentage of any given county in the country can be classified as A value wetland, which then would be regulated, which then the owner would be compensated for. Suppose you have a—and I don't know what the percentage is. Twenty percent or something like this. Let's just say it's 20 percent, and there is a classification for A value wetland. Suppose that county, based on the classification that's accepted, has 60 percent A value wetland. What would then be the policy? What should be the policy?

Mr. SZABO. H.R. 1330 says that type A wetlands can be compensated at the option of the land owner. The land owner can

choose to keep it with the restrictions. The Louisiana Members that helped develop the bill put the 20 percent limit in because so many of the parishes in extreme south Louisiana are 100 percent wetlands, and they didn't know the percentage that might be considered type A wetlands.

However, some of those parishes have 100,000 people living in them and I think the judgment made by those Members in putting the bill together was that they still had to have a tax base in those parishes, they still had to have economic development, they still had to have places for homes, and they didn't want to turn their parishes into national parks, and that was, I think, what drove their judgment. Whether 20 percent is the right number, whether any number is proper, is really a judgement in which the Coalition did not participate. It's a judgment by the Members of what was important to their districts.

Mr. GILCHREST. I see.

Mr. YAGER. Congressman, the other thing that's important to remember there is that that does not mean that the other 80 percent will be lost. If in fact they all or 60 percent of the county are wetlands of national significance, as defined in the Hayes legislation, it would only mean that 20 percent would qualify for that immediate compensation later found in the legislation. The other wetlands, the other 40 percent that are of national significance, would still be required to have a permit for any activity that would go on in those, and it would still be regulated, as we do any other important wetlands in the country. It was a way to set some as more important than all others. It would provide more protection than we currently have under the existing law.

Mr. GILCHREST. Some standard. Understanding how zoning laws have been in the past, and understanding the idea which is becoming a fairly accepted practice of understanding water from the perspective of watershed management and how it all interrelates and interacts, would you agree that communities really need, especially for future generations that will be the recipients of what we do, some type of comprehensive managed growth plan so that we can see into the future what impacts development is going to have and population growth?

Mr. YAGER. Congressman, no question about it. In fact, we've been managing growth since the early 1970s. One key component of your question, though, was the issue of management. Right now we don't manage wetlands at all. The national policy is strictly avoidance, that nothing should occur. The fact is that if wetlands are to be part of a managed water resource, then you've got to have some growth management, you've got to use some other tools, but you have to manage as a resource. You can't just go in there with a regulatory program saying, "No, you can't do anything."

Mr. GILCHREST. Sometimes managing the resource of wetlands means doing nothing to those wetlands.

Mr. YAGER. Oh, very definitely. But that's part of a management plan for high-value wetlands or wetlands of limited resources. Within a watershed, there's lots of management tools that you would get there. But to say right now, as we do across this country, that if you have a Federal jurisdictional wetland, no activity will occur, is not management.

Mr. SZABO. Mr. Gilchrest, if I could answer that, just take a stab at it, you may be correct that more land use management is where the country is moving. I would think that members of our Coalition would have two requests: that you, to the maximum extent, do that from the local level and not the Federal level and be very careful, perhaps about where you should use the Federal power to mandate local judgments; and, second, when you do exercise the redends anything, please do it through the front door. Say what you're doing and let's debate it. Let's don't do it through the back door—

Mr. GILCHREST. I couldn't agree with you more. Thank you.

Mr. APPLGATE. Mr. Geren?

Mr. GEREN. Thank you, Mr. Chairman.

I'd just like to ask one question to anybody on the panel. One hundred days does not an Administration make, except in the eyes of all the people who make their living writing columns. But do you all have any kind of sense if there's been a change in these first three months of this Administration in the enforcement of wetlands policy over what we saw over the last several years under the Bush Administration and the Reagan Administration preceding that?

Mr. SZABO. Mr. Geren, we've seen two things. When Mr. Bush said no net loss of wetlands, suddenly folks started making a lot more rigid judgments out in the field against some test that they thought was coming. Recently, we've seen some more rigid judgments in south Louisiana than we've ever seen before. We've seen some permit problems during the first 100 days if this administration that we've never seen before. I don't think that's necessarily coming from the new Administration, but it's perhaps like the Bush reactin to the "no set less" pledge, was, in anticipation of what they think might be the right way to do this permitting.

We've had some permits denied. The Archdiocese of New Orleans had a permit challenged recently on land that they were trying to preserve from erosion and saltwater intrusion that was the type but has not been challenged in the past.

Mr. YAGER. The home builders are not experiencing any radical change in the administration of the program since the new Administration has taken over. The best thing that has happened happened before, when we went back to the use of the 1987 manual, and that has made a dramatic change. There are still problems out in the field, but not nearly as many as we had when they used the 1989 manual.

Mr. GEREN. All right. Thank you very much.

Thank you, Mr. Chairman.

Mr. APPLGATE. Thank you, Mr. Geren.

Mr. Horn?

Mr. HORN. Thank you, Mr. Chairman.

I want to congratulate the panel on bringing us reality from the field of life experiences that your members have related to you.

Mr. Dorfman, I'm just curious, what kind of pipes are you mostly finding? What metal are the pipes basically that have corroded such as this?

Mr. DORFMAN. I'm not sure I can answer that, because this is a particular situation. I think you find metal pipes, depending on when they're put in. I have to caution that this is a 50- and 100-year-old pipe. There are two different pipes here. The new pipes

now have lining, are made of different components that correct those problems that you're seeing here.

Mr. HORN. Well, I just wondered if any were lead pipes.

Mr. DORFMAN. Oh, they're still lead pipes. It depends on the agency. There are cities throughout the country that have their way of using whatever they want.

Mr. HORN. Sure. It seems to me there are major public health problems there probably in terms of the quality of those pipes and what's happened into the water supply.

Well, let me move to another question, and that is, the statement was made that people have not agreed on the science, and I think that's true. Let's face it, there are different people that have different interests in this particular area. How would you describe those different interests when you look at them and they reject "science" because the study just doesn't agree with what they think ought to happen to wetlands, either less wetlands so defined or more wetlands so defined? What's your analysis of it?

Mr. SZABO. Well, we've been right in the middle of this debate, and I'm afraid much of this debate has been between good and evil and between developers and non-developers. It's taken on kind of a not-always-pleasant tone. I think, however, that primarily people of good spirit can disagree with what is a wetland. The more fundamental question is, whether certain land with wetlands values is important enough to require Federal protection? There hasn't been much guidance from Congress in this area. We ask you to provide that guidance.

Mr. HORN. Well, you're expecting Congress to do what the "people" can't seem to do. I mean, we're fragmented, too. The old story I mentioned the other day about where you stand depends on where you sit.

Mr. SZABO. That's right.

Mr. HORN. There are differing views here, and that's often why the language is so vague. You can either turn it over to an administrative agency and keep your fingers crossed, and then when we're unhappy with it, we can club them once in a while.

Mr. SZABO. I don't think Congress voted to get into this program, to be honest with you. This was a navigable waterways "dredge and fill" permitting program. Mr. Oberstar mentioned that it grew substantially not just because of the Corps, but because of court decisions and a lot of other things. I think, unfortunately, it's kind of grown out of control, and we have to look to you, as our elected officials, to bring some order to the program. I know that's going to be difficult, but we certainly wish to help you in that, to the extent we can, and we understand it's a difficult task.

Mr. HORN. Mr. Yager, you had a comment?

Mr. YAGER. Yes. Congressman, the science can get into what types of vegetation should occur, and when you get into the browning of leaves and what does that mean about when the water was here and so forth, but when I go back to talk to builders across this country and I tell them that a Federal jurisdictional wetland that must be protected by the Federal Government because of water quality issues is any land that had water within 18 inches of the surface, they wonder, how do you call that a wetland?

I think if Congress wanted to say, "Listen, there needs to be surface water, and we leave it up to the scientists to determine types of saturation and duration and things such as that," but Congress has to set some parameters around the Government regulation of that land if it's important for water quality purposes. The same thing goes with the parameters. In 1987 it seemed to be important that we had all three parameters. You had to have some type of water, you had to have some type of hydric soils, you had to have some types of vegetation. Suddenly, we had an 1989 manual that said, "Well, listen, if you've got one, you can assume a second," and later in the manual it said, "If you've got two, you can assume the third." Congress should have said, "Listen, you need to have independent indicators of all three. Leave it up to the scientists to determine what those independent indicators are."

Frankly, I've spent a lot of time on this issue, and I get confused when I have to start getting into independent indicators. I don't expect Members of Congress to do that, but I do expect Members of Congress to say, "Listen, we don't want to regulate all land that may have some water characteristics as important for water quality purposes, section 404, but what we do want to say is some wetlands, because of flooding or water purification or other such things, need to be protected from Federal jurisdiction, and we're going to lay out the parameters and let the scientists go in between that." That's what we expect the Congress to do, because that's what's missing from the statute.

The Academy, I don't know in one year, for \$400,000, they're going to come up with new science. What they're going to do is what we're asking Congress. They're going to come up with some policy concerns, and that's what we expect Members of Congress to do in one year, for \$400,000, is to come up with those broad parameters.

Mr. HORN. Sure. Let me ask one last question. There seems to be a bipartisan consensus here that we ought to have one agency making these decisions, not two. But could two agencies be involved but have separate jurisdictions? For example, the Soil Conservation Service has been mentioned. Agricultural lands have been mentioned extensively this morning. Would it make any sense to have the Soil Conservation Service, which does have an extensive network around the country, even more than the Corps of Engineers, involved in the problems of wetlands as related to agricultural lands versus the Corps handling everything but agricultural land?

Mr. SZABO. Well, obviously, you can do whatever you all wish to do. Two considerations, however. Agricultural lands to most farmers will someday possibly be commercial land. Most farmers don't want to give up their right to sell if the city comes close and they can sell it for development. I think you need to think through at what point it might shift from one agency to the other.

I was more intrigued, candidly, by your comment earlier that maybe we ought to have a new agency that was missioned for this purpose and made up of resources from all agencies. I know that's something Congress doesn't always do, but perhaps this one area is complicated enough that that approach makes some sense.

Mr. HORN. Yes.

Mr. YAGER. Congressman, it needs to be a single agency for everyone, whether it be USDA or whether it be the Corps or EPA. We prefer the Corps. But let me give the example of food safety in this Nation. When we wrote the food safety laws in other committees, they didn't say, "Listen, because pesticides, which kill things, are applied to food, we should have multiple agencies involved in the regulation of the pesticides." They gave the regulation to a single agency. FDA, Food and Drug, EPA all have a role. We think a number of different Federal agencies may have a consulting role, and that's what we do with food safety. But with food safety, we don't say, "Well, the permits should be regulated by two different agencies, with each coming to different conclusions." We said only one agency.

And it should be the same thing with wetlands. Allow a number of agencies to have a consultive role, but only give it to one agency. You know the old book, "Reinventing Government." Congress made one mistake in 1972, when they started a dredge and fill prevention pollution program and said, "Well, we have EPA and we have the Corps, and we don't want to make a decision, so let's give it to both." Let's not make that same mistake again.

Mr. HORN. Right. The one disadvantage I can see with the Soil Conservation Service is it might be considered too much of an "old buddy" system, because you've got local farmers on those citizen boards, and that could either work in favor of or against, depending upon local biases in relation to particular farming operations. But I think you've raised a good point, and it ought to stimulate some discussion in this committee as to how you place responsibility, how you get the job done in a timely manner so people don't have money tied up in decisions, with the clock running, and we haven't been responsive in terms of the executive bureaucracy.

Thank you, Mr. Chairman.

Mr. APPLEGATE. Thank you, Mr. Horn.

Gentlemen, thank you very much for appearing before the committee today.

Mr. APPLEGATE. The meeting is adjourned until 9:30 a.m. tomorrow morning.

[Whereupon, at 1:09 p.m., the subcommittee recessed, to reconvene at 9:30 a.m. on Wednesday, May 12, 1993.]

PREPARED STATEMENTS OF WITNESSES

U.S. REPRESENTATIVE TOM BARLOW'S  
TESTIMONY BEFORE THE HOUSE SUBCOMMITTEE  
WATER RESOURCES AND ENVIRONMENT

May 11, 1993

Chairman Applegate, members of this subcommittee, I welcome the opportunity to testify before you today.

I represent Kentucky's First District. My district is an agricultural district encompassing nearly one-third of Western and Southern Kentucky. The Mississippi, Ohio, Tennessee and Cumberland rivers either flow through or run along the borders of my district. Accordingly, one of the most important issues facing my district concerns the Clean Water Act and its enforcement.

**A. Ground Water Monitoring:**

While farming is the single largest industry in my district, farms are generally small in acreage and are best described as "family farms." Farmers in my district raise corn, soybeans, wheat and tobacco. There are also many farmers that raise livestock such as cattle and hogs. All farmers are concerned with how to comply with environmental laws and regulations that seem designed for industries other than farming.

One of the most troubling issues involves "groundwater monitoring." Farmers are being advised that they must construct expensive "monitoring wells" in order to comply with both state and federal environmental laws. I am told that one monitoring system can cost between \$20,000 and \$30,000. Farmers simply cannot afford such a cost, especially when farm incomes are declining.

The fundamental problem involves the application of "strict liability" to the agriculture industry. Unlike other industries that use water, farmers are unable to "turn off the spout" and control the quality of the water that they use. Rain contains various impurities that affect the ground water. Farmers must use some chemicals in order to maintain profitable operations. Cattle and hogs produce waste that may impact the groundwater. Current laws and regulations that seem to require drastic steps are not realistic.

A better approach would require farmers to use "best management practices" ("BMP") and relieve farmers from strict liability if a farmer follows BMP's recognized by the industry. Absent willful misconduct, it is not fair to subject farmers to "strict liability" if farmers engage in BMP's. Farmers should not be required to monitor groundwater quality absent strong proof that a farmer willfully fails to follow BMP's.

**B. WETLANDS:**

While working in Washington for the Natural Resource Defense Council during the 1970's, I became very familiar with the many problems that face wetlands in this nation. In response, Congress enacted tough wetlands legislation. Today, it is my belief that Congress should modify its approach in this area.

Landowners and wetlands must coexist. The federal government must be careful when telling a citizen what he or she can and cannot do with his or her property. I propose that we look for new ways to encourage wetlands preservation.

**C. Conclusion:**

We must protect the environment of our planet. The farmers of my district understand this since their very existence depends on whether they properly manage the air, water and soil which provide the foundation for their industry. At the same time, we must not destroy the industry that feeds our nation and the world. Agriculture and environmental protection must coexist. Good farmers follow best management practices and must not be forced out-of-business because of water quality concerns that are unreasonable and out of their control.

Once again, I appreciate the opportunity to testify before this subcommittee about the concerns of the constituents that I serve.

TOM BARLOW

**Testimony of  
Robert L. Bowen**  
on Behalf of  
**The Associated General Contractors of America**  
Presented to the  
**House Public Works and Transportation Committee**  
**Subcommittee on Water Resources**  
on the Topic of Reauthorization of  
**The Federal Water Pollution Control Act**  
May 11, 1993



The Associated General Contractors of America (AGC) is a national trade association of more than 33,000 firms, including 8,000 of America's leading general contracting firms. They are engaged in the construction of the nation's commercial buildings, shopping centers, factories, warehouses, highways, bridges, tunnels, airports, water works facilities, waste treatment facilities, dams, water conservation projects, defense facilities, multi-family housing projects and site preparation/utilities installation for housing development.

The Associated General Contractors of America  
1957 E Street N.W., Washington, D.C. 20006-5199, (202) 393-2040, Fax (202) 347-4004

My name is Robert L. Bowen and I am a construction contractor from Indianapolis, Indiana. With me is Brian Deery who is with the national staff of the Associated General Contractors of America. The Associated General Contractors of America (AGC) is a national trade association of more than 33,000 firms, including 8,000 of America's leading general contracting firms. These firms are engaged in the construction of the nation's commercial buildings, shopping centers, factories, warehouses, highways, bridges, tunnels, airports, water works facilities, wastewater treatment facilities, dams, water conservation projects, defense facilities, multi-family housing projects and site preparation/utilities installation for housing development.

AGC appreciates the opportunity to present its position on the important topic of reauthorization of the Federal Water Pollution Control Act. AGC respectfully urges this subcommittee to continue to provide capitalization grants to the State Revolving Fund (SRF) program through the end of the century at \$3.4 billion per year and increase this funding to \$5 billion per year if new eligibilities, such as addressing stormwater runoff problems, are to be funded with SRF loans. AGC also recommends that Federal clean water funding not be provided as direct grants for specific projects. Recognizing that some small, impoverished communities may not be able to repay loans, AGC recommends that the water and wastewater grant and loan program of the Rural Development Administration be expanded to provide funds to these communities.

AGC makes these recommendations because we believe that this program has been highly successful in significantly improving the quality of our nation's waterways and the program provides significant short-term and long-term economic benefits.

AGC is concerned, however, that the tremendous clean water progress of the past 20 years will be undermined and there may actually be a decline in water quality if sufficient funds are not available for states to make loans to local governments to provide and upgrade wastewater treatment facilities. Wastewater treatment needs continue to grow. While most of the larger municipal wastewater treatment facilities are in compliance with water quality standards, a significant percentage of small systems are not. EPA's 1990 Needs Survey projected \$80.4 billion in capital investment necessary to address the nation's wastewater treatment needs. In addition, states identified \$30.2 billion in needs which did not meet EPA's documentation criteria but which nevertheless do exist. Therefore, the total estimate of needs over the next twenty years, based on this survey, is \$110.6 billion.

Many of the systems that were built in the mid-1970s are beginning to approach the end of their useful lives and will need modernization, replacement and overhaul. The estimate of cost for addressing these needs is not included in EPA's Needs Survey. A study by the consulting firm Apogee Research, however, projects that capital expenditures for replacement of existing wastewater facilities may be as much as \$59 billion between 1993 and 2000. Also, new water quality projects to control non-point source pollution and to correct combined sewer overflow problems will compete with the more traditional projects for the limited available funds. The cost to correct the combined sewer problem alone has been estimated at over \$100 billion.

Already there are signs that the nation is losing ground in its effort to continue

progress toward clean water. The estimated \$110.6 billion in wastewater treatment facility needs included in the 1990 Needs Survey represents nearly a \$17 billion increase in needs since the last Needs Survey was reported in 1988. EPA is due to release its 1992 Needs Survey in the very near future. Early indications from EPA are that the needs figure in this survey will exceed \$120 billion. Some of this increase is due to better documentation of needs and new enforcement requirements to control such things as: toxics, combined sewer overflows, non-point source pollution and stormwater runoff. Other organizations have developed their own treatment needs assessments, which exceed these numbers. Regardless of which projection of needs is used it is clear that the needs are great. If clean water progress is to continue, federal funding must be continued and increased.

AGC strongly supports the State Revolving Fund (SRF) program as the best means for meeting wastewater needs. The SRF program has placed the authority for addressing water pollution problems where it belongs, at the state level. States work in cooperation with local governments providing easier and less costly administration. According to the Association of State and Interstate Water Pollution Control Administrators (ASIWPCA), administration of the program at the state level has led to a 50 percent faster completion rate and lower project costs as compared to the traditional construction grants program. Because the funds are provided to local governments as loans to be repaid, there is an incentive for localities to be innovative, reduce costs, develop appropriate user fees and operate the systems more efficiently. Many states are experimenting with leveraging options to increase the amount of funds that will be available for meeting wastewater needs.

The goal of the SRF program is, of course, for it to become self supporting through the repayment of the loans by local governments. Eventually this will happen. However, the amounts provided to the SRFs thus far are not sufficient to make it self supporting at this time. Loan repayments have not yet begun to flow back into the SRFs in amounts sufficient to continue the necessary level of investment to make progress against the ever growing needs. Because of the growing gap between the amount of funds being invested in wastewater facilities and the increasing needs, now is not the time for the Federal government to abandon its commitment to clean water funding. For this reason AGC calls on Congress to authorize funding of \$3.4 billion per year through the end of the century.

As the clean water effort begins to focus on such problems as combined sewer overflow correction, toxics removal, stormwater management and nonpoint source pollution, more funds will be needed. These problems should be addressed with funding from the SRFs. However, the \$3.4 billion per year in funding we have called for will not be sufficient to meet these additional water pollution problems which are not currently eligible for SRF funding. Therefore, AGC recommends an additional \$1.6 billion per year in capitalization funding if new water pollution projects are to be eligible for funding from the SRFs.

AGC also urges that all funding be provided as title VI capitalization grants to the SRFs and not as direct title II grants for specific projects. AGC believes that providing direct grants to specific projects undermines the long-term viability of the program because this funding is not repaid into the SRFs. Also, providing direct grants sends the message to other local communities that if you wait long enough and

do not address your water treatment problems, the Federal government will eventually step in and provide funding. This is the wrong message.

AGC realizes that there are some small, economically disadvantaged communities which are not able to repay loans, regardless of the interest rate being charged. These communities certainly need to be provided assistance. AGC recommends that the wastewater grant and loan program of the Rural Development Administration be expanded to address these specific needs. This program has established criteria for making grants and loans in rural areas which could be extended to communities which are not currently included.

In conclusion, AGC believes that the nation's clean water program should be viewed for what it is -- an investment in the future economic viability of the nation. Each one billion dollars invested in the construction of a wastewater facility generates nearly 50,000 jobs. More importantly, however, wastewater treatment creates opportunity for economic development in communities by allowing new industries and new homes to be located there. Wastewater facilities are a fundamental element of the nation's infrastructure which is necessary for the economic vitality of any community. At this time, when many of our global competitors are recognizing the importance of infrastructure as the vital foundation on which future economic growth is based, the United States must provide the needed capital investment to remain competitive. AGC urges Congress to move expeditiously to reauthorize the Clean Water Act and to provide for the continuation of capitalization funding for the highly successful clean water program.

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**PREPARED STATEMENT OF GERALD E. DORFMAN  
PRESIDENT  
NATIONAL UTILITY CONTRACTORS ASSOCIATION**

**BEFORE THE**

**U.S. HOUSE OF REPRESENTATIVES  
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT**

***THE UNSEEN CRISIS:  
AMERICA'S CRUMBLING CLEAN WATER INFRASTRUCTURE***

**MAY 11, 1993**

**CONSTRUCTORS OF WATER, SEWER AND UNDERGROUND UTILITY SYSTEMS**

Mr. Chairman and Members of the Subcommittee, I am Gerry Dorfman, President of the National Utility Contractors Association (NUCA) and President of Dorfman Construction of Woodland Hills, California. I have been in the business of building water supply and wastewater treatment facilities for over thirty years.

### **I. The Situation At Hand**

The various scientific studies and statistical assessments that are used to document water pollution problems are useful and important but sterile. They fail to convey the nature of the harm in stark, realistic terms.

I want to tell you first-hand that the water infrastructure needs in the United States are tremendous in terms of the investment required for construction and rehabilitation and in terms of the devastating social, environmental, and economic opportunity costs that result from our reluctance to devote sufficient resources to the problem.

A renewed federal commitment to clean water construction should be an easy choice, not a tough choice. I don't need to tell you the importance of fresh water to everyday life. Clean Water Act construction programs have improved the quality of the nation's water resources immensely to the benefit of all. Clean water construction funding must become a top priority.

#### **A. Deteriorating Sewer Systems**

Not long ago, my company replaced a septic system that served a rural neighborhood in Northern California. Financing for the job was provided by the federal government. While I was prospecting the site before preparing my ultimately successful bid, I was absolutely dumbfounded to discover that the

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families' backyards were saturated with raw sewage that had overflowed from failed leaching systems. These families were literally trapped in their homes. The children could not play outside. The entire neighborhood was a public health hazard. The impact on the quality of life was immeasurable.

The federal investment in this community was necessary and sound, and it is important for me to tell you that the neighborhood in question is thriving since the completion of the job. People now enjoy simple pleasures, such as family barbecues on the patio.

The sewer problem is urban as well as rural. On a project for a major city in Southern California, we recently replaced a sewer pipeline that had failed earlier than expected due to unstable ground conditions. When we uncovered the pipe, we found gaping holes where raw sewage had been escaping into the surrounding ground for an unknown period of time. The devastating part of the story is that the collapsed system was located less than 100 yards from a fresh waterway. Whenever the tide rose, the pipe carried fresh water to the treatment plant. When the tide went out, so went the sewage. We had uncovered a daily exchange of raw sewage and fresh water.

#### **B. Combined Sewer Overflows**

A second problem occurs with combined sewage overflows. On a project in the Northwest, our firm replaced a large-diameter brick sewer built in the early 1900s. There were numerous delays when work was suspended due to heavy

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rainfall. On more than one occasion, I stood with my superintendent watching raw sewage and rainwater discharge into a great river because the infrastructure could not process the influx added by the storm. This was not an isolated event. All 1,100 of the nation's combined sewer systems need to be augmented so they are either a storm system or a sewer system, not both.

**C. Leaking Drinking Water Systems Exacerbate Contamination**

Thousands of miles of old and decaying drinking water lines also contribute to water pollution. My son recently replaced a 10,000-foot water line for a community in Southern California. He was continually plagued with suspension of work because the adjacent line, which his work was to replace, leaked like a sieve. As you can imagine, this situation entailed an incredible loss of water to the community as well as enormous construction costs, but that is not my point.

The leaking clean water contributed to water contamination when it merged with sewage from leaking sewers beneath. The increased volume of contaminated water flowed to the closest aquifer or waterway. In addition, some of the leaking clean water entered the sewer and returned to the treatment plant. As you can see, the water pollution ramifications of a drinking water system failure are extensive. The people who suffer the consequences are unsuspecting, downstream.

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**D. Lessons From Experience**

I have drawn a number of observations from these and other experiences in the field since the Clean Water Act was last amended in 1987.

- First, I find it particularly poignant that any of my fellow NUCA members, from any state in the land, could appear before this Subcommittee this morning and tell similar stories. That is the appalling reality of the situation, despite great progress under the Clean Water Act.
- Second, the most important needs are not new or particularly complex. It is simply a matter of core infrastructure -- pipes in the ground -- falling apart because they have not been replaced in half a century. Too often, we try to construct bigger and better treatment plant facilities, while ignoring the source of the problem. An incisive and rigorous attack at the source, the ancient pipes, will swiftly and effectively stop the contamination of the water supply. In addition to these important traditional needs, we must simultaneously address new threats to water quality.
- Third, and despite the frequent occurrence of water quality emergencies such as those I have described, Americans continue to ignore the water infrastructure crisis because collection, delivery, and treatment facilities are generally out of site and therefore out of mind in the absence of crisis. Unlike a pothole in the highway, you can't preempt a water catastrophe

unless you look for it.

- Fourth, the problem itself has become so egregious that even those individuals familiar with the issue are repulsed by the massive remedy that is so clearly necessary. Too often, a listener's eyes glaze over when I mention a growing \$200 billion clean water infrastructure deficit. The cynic in me wonders how many deaths, such as those caused by the recent water contamination crisis in Milwaukee, Wisconsin, must occur before we get serious.
- Fifth, correcting these problems will generate immediate and lasting economic benefits. Functioning clean water infrastructure is an obvious and absolute precondition for industry, agriculture, retail commerce, professional services, government, schools, hospitals, emergency services, recreation, affordable housing, and everything else. Furthermore, the people who work for me do not consider their careers make-work. They are educated, make good wages, pay plenty of taxes, save a little, and plow the rest right back into the private sector.

## II. NUCA Recommendations

### A. The Level And Source Of Funding

For the eight-year period 1993 to 2000, NUCA recommends annual authorized funding of at least \$5 billion for the wastewater SRF Program. This recommendation corresponds to the most conservative assessment of investment

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needs -- investment needs above and beyond what the states are likely to spend themselves. We have not inflated our estimates, and we cannot in good conscience recognize lower funding levels as adequate.

NUCA strongly supports the creation of a new revenue generating program targeted directly and exclusively to clean water infrastructure. This revenue raising program should incorporate a user-fee principle. We encourage the Subcommittee to explore new sources of dedicated revenue for needed clean water infrastructure and recommend that the Subcommittee conduct a public hearing to examine the merits of various revenue-raising mechanisms.

## **B. The Structure Of The Program**

### **1. Loans, Not Grants**

NUCA does not play a direct role in the administration of federal clean water funds. Companies in our industry simply bid on funded projects when bids are solicited by project owners. Nevertheless, the utility construction industry has a direct stake in the efficient use of precious federal resources.

NUCA favors the continuation of the State Revolving Loan Fund Program (SRF). While the SRF can be implemented more effectively with minor legislative adjustments, its fundamental characteristics are preferable to direct grants. First, we embrace the intent of the

program, which is to provide states with a revolving, permanent pool of capital. Of equal importance is the fact that SRFs can be leveraged to create bigger lending pools, which means that more projects are built. Extended amortization periods beyond the current 20-year maximum loan term, loan principal subsidies, and other adjustments should be made to make the SRF a more attractive source of financing to small and/or hardship communities that have not been able to participate.

NUCA opposes funding for project-specific grants because they encourage communities to postpone projects in the hope of receiving a grant and tarnish the reputation of the construction program by calling into question the fair distribution of limited federal resources. Moreover, the Rural Development Administration already administers a growing wastewater treatment grants program.

**2. Eliminate The Restriction On Sewer Corrections**

NUCA strongly favors the elimination of restrictions on funding sewer collectors and combined sewer overflows [Section 201(g)(1) of the Clean Water Act]. The experiences described earlier demonstrate the necessity of removing this restriction.

In addition, we oppose the inclusion of special earmarks or set-asides designed to address singular water pollution problems. Each state should be given the flexibility necessary to address its unique blend of needs.

**3. No Money For Land Acquisition**

NUCA supports the current restriction on the use of SRF funds for the purchase of land. We recognize that this restriction may make the SRF a less attractive source of financing in some communities, especially rural communities that require land for collectors and interceptors. Nonetheless, we believe that the SRF funds must not be diluted at this time for this purpose.

**4. Private Sector Design And Construction**

We recommend that the Subcommittee clarify that all clean water infrastructure projects funded by the federal government must be publicly bid. This stipulation will ensure that public works projects are designed and constructed only by private sector firms, which must pay federal taxes and comply with federal OSHA requirements.

**5. Administrative Set-Aside**

The amount of money in an SRF that may be used for administrative expenses is limited to four percent of all capitalization grant awards received by the fund. It has been suggested that the four percent

limit can prevent efficient SRF administration -- especially in states that leverage their fund. NUCA hopes that the Subcommittee will explore ways to increase the administrative efficiency of the SRF that do not require the use of precious appropriated capital funds to cover operating costs. A separate grant for administrative costs or simply allowing the use of a small percentage of each state's total fund for administrative purposes are two alternatives.

**6. Construction Efficiency**

NUCA is presently examining additional minor changes to the Clean Water Act designed to make the actual construction of facilities more efficient and cost-effective for the taxpayer. We will submit these ideas to the Subcommittee following our Spring Board of Directors meeting later this week.

**C. Wetlands Regulatory Reform**

The United States is in urgent need of a comprehensive and coherent national wetlands program that protects vital wetlands from destruction, allows for the delivery of essential public services, minimizes burdens on the small business community, and enhances the over all quality of life. NUCA believes that federal decision-making power regarding wetlands management should be consolidated under the auspices of a single agency -- preferably the U.S. Army Corps of Engineers. Wetlands should be clearly defined, classified, mapped, and

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indexed. The level of protection for each classification should correspond to its ecological value. Lands of marginal ecological value should not be regulated.

While NUCA supports reform of federal wetlands management, we are very concerned that congressional consideration of the wetlands issue will substantially delay or even preclude reauthorization of the Clean Water Act during the 103rd Congress. The wetlands reform debate must not hold the clean water construction program hostage.

### **III. Closing**

At NUCA, we suspect that federal funding for clean water facilities is more important to the families of this country and the future of this country than much of the domestic discretionary budget. The need for new sources of funding cannot be emphasized enough. We appreciate this Subcommittee's longstanding commitment to clean water infrastructure funding, and we are grateful for the opportunity to work with the panel. Thank you.

**Clean Water Construction Fact Sheet**

- A 1992 study conducted by Apogee Research, Inc., concludes that as many as 57,400 jobs are created for every \$1.0 billion invested in water supply and water pollution treatment projects.
- The seasonably adjusted unemployment rate for construction is approximately twice the civilian unemployment rate. The utility construction industry can put these unemployed people to work immediately -- just as soon as projects are funded.
- Thousands of necessary ready-to-go projects languish on the drawing board.
- Research conducted by Apogee Research, Inc., demonstrates that investment in water quality infrastructure enhances private sector productivity (output per manhour), increases private profitability, and stimulates private investment in plant and equipment.

Investment in this area also increases public tax revenues. For example, a one-time, \$2.5-billion investment in water and wastewater facilities (representing 1% of the net stock of clean water capital as of the end of 1989) is self-financing in the space of less than a decade. This payback period assumes an annual depreciation rate of 2.5%, an annual maintenance investment of \$0.062 billion, an average tax rate of 15%, and a discount rate of 10%.

- Clean water infrastructure protects our rivers, lakes, and streams and is a precondition for housing, consumer services, and industrial and agricultural production.



SUBMITTED BY ROLAND GEDDES,  
WASHINGTON REPRESENTATIVE



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**Statement  
of the  
National Association of Conservation Districts  
on  
Reauthorization of the Clean Water Act**

**Presented to the**

**House Committee on Public Works and Transportation  
Subcommittee on Water Resources and Environment**

**May 11, 1993**

The National Association of Conservation Districts (NACD) represents the nation's 2,950 local conservation districts and the more than 15,000 men and women who serve on their governing boards. Conservation districts, special purpose units of state government, are charged with coordinating and carrying out comprehensive, local natural resource management programs including forest and range management, wetland protection and enhancement, erosion and sediment control, fish and wildlife habitat management, and nonpoint source pollution control.

Many issues will be reviewed as Congress considers reauthorization of the Clean Water Act. The nation's conservation districts very likely will be involved in many of the water quality and wetlands protection programs that are generated by this legislation. Of primary interest to NACD and the nation's conservation districts will be nonpoint source pollution programs, ground-water protection, sediment criteria, water quality standards, coastal zone pollution, and wetlands restoration and protection programs. Conservation districts are the lead local implementation agency for many local, state and federal programs that address these resource areas.

In general, NACD urges Congress to support reauthorization provisions that place primary emphasis on education, technical and financial assistance to assist land managers in addressing potential or existing resource problems. Our philosophy is nothing new to members of this subcommittee—we have testified here before and bring forward many of the same concerns we have shared in the past. We do, however, need to emphasize the urgency to move forward in developing and carrying out a comprehensive water quality strategy for the nation—especially where nonpoint source pollution is concerned.

In discussing reauthorization of the Act, it must be kept in mind that we are in the early stages of the discussions and numerous preliminary ideas and proposals have been offered as food for thought. At this point, NACD's positions state only broad and general policy recommendations for consideration in developing specific proposals later.

CLEAN WATER ACT — May 1993

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## GENERAL PRINCIPLES

The nation's water quality goals must be holistic and should seek to achieve and maintain clean water for all uses. Comprehensive resource management plans that include water quality goals should be developed on a watershed basis, targeting actions where they will do the most good. Pollution prevention should be the foundation of our water quality agenda. Within a national framework, state and local programs must be flexible to permit programs to address water quality problems as close to the source as possible. States also should have the lead in establishing program priorities and developing regulatory-nonregulatory mixes that work best in each state. Monitoring and assessing the state of our water resources are needed to provide accountability for state and local program efforts, as well as to target limited resources to the most pressing problems. Information and education, and technical and financial assistance must be utilized to empower all segments of society to address water quality problems. Funding, from all levels of government, must be increased to match the scope of the problem.

## NONPOINT SOURCE POLLUTION

There has been much talk about federal programs to manage nonpoint source pollution during the past 15 years. Section 208 of the 1977 Clean Water Act amendments was the first substantive attempt to address nonpoint pollution through the Clean Water Act. Unfortunately, it's been mostly talk and little action at the federal level since that time. While many states have made substantial progress in developing nonpoint programs—especially in agriculture—the federal government has done little to help. Only in the past four years has Congress appropriated funds to help states carry out these programs. And the \$50 million per year in those four years is a mere drop in the bucket compared to funds directed toward point source problems. We believe it is critical that the federal government make a substantial commitment to help states carry out their nonpoint pollution management programs if we are to achieve our national water quality goals.

Addressing nonpoint source pollution requires a different institutional framework from the traditional command and control approach that has been so effective in controlling point sources. That approach is simply unworkable in addressing nonpoint problems. By enacting 1987 Clean Water Act Section 319, Congress recognized that the solution to nonpoint pollution lies in state and local action. Fortunately, states have made considerable progress in developing the infrastructure needed to control nonpoint pollution. With much of the groundwork in place, what is needed now is a serious commitment of manpower and funding from both state and federal governments to translate the nonpoint agenda into action.

NACD recommends that the 1993 Clean Water Act continue the strategy set forth in Section 319 whereby states are directed to develop nonpoint source pollution management programs that are responsive to local needs and conditions. The management programs should continue to emphasize technical and financial assistance, coupled with educational programs. The programs also should be built around economically feasible, technology-based systems to protect and enhance water quality. The standards and criteria should be based on existing or planned use of the water resource and be developed within a national framework with input from states and other groups including agriculture, industry, and conservation and environmental groups.

NACD also recommends that Congress, through the Environmental Protection Agency and the Department of Agriculture, provide financial and technical assistance to states in refining and carrying out their nonpoint programs. States, operating within the national framework, also should have the lead in establishing program priorities and developing regulatory-nonregulatory mixes that work best in each area.

### **POLLUTION PREVENTION**

NACD and conservation districts have long embraced the concept of pollution prevention. Over the years the district philosophy has been: Use each acre within its limits and treat it according to its needs. We believe this concept applies to water quality initiatives as well. We further support programs that target the highest risk-based priorities. Since nonpoint pollution is recognized as a significant contributor to water quality impairment, efforts should continue to focus on addressing state and local nonpoint priorities to prevent nonpoint pollution.

### **MONITORING AND ASSESSMENT**

NACD recommends that Congress expand and refine our national water quality research and monitoring program. Congress should seek to improve and expand the national water quality database so the condition of the nation's water resources can be thoroughly quantified.

### **WETLANDS**

NACD urges Congress to examine and restructure our national wetlands policy. A clear, concise, and fair policy is needed to effectively manage the nation's remaining wetlands. In addition, a standard and consistent national definition for wetlands that will eliminate interagency conflicts and public misunderstanding must be developed.

NACD supports an incentives-based approach that embraces education, technical assistance, and financial incentives such as tax credits, zoning variances, and assistance in developing economic enterprises to protect wetland resources. While regulatory mechanisms represent an important element in a comprehensive wetlands protection program, they should not be the primary tools. State and local government should be vested with primary responsibility for developing and implementing wetlands conservation programs that meet guidelines established within a national framework.

NACD supports a flexible "no-net-loss" wetlands policy that takes into consideration economic and environmental impacts and provides for strong state and local input. Highest priority should be given to protecting those wetlands with the most significant values and functions. NACD also supports wetland mitigations and tradeoffs in areas where wetland conversions are necessary.

The USDA Soil Conservation Service (SCS), with proven technical expertise in soil and water conservation, should be designated as the lead agency in developing the definitions of wetlands to be used by all federal agencies with jurisdictional wetlands responsibilities. NACD also recommends that the responsibility for wetland identification, mitigation and management on agricultural lands and forested lands for agricultural uses be transferred from the U.S. Army Corps of Engineers to USDA Soil Conservation Service.

## EDUCATION, TECHNICAL AND FINANCIAL ASSISTANCE

Information and education are key parts of preventive and corrective actions in pursuing the nation's water quality agenda. Educating and empowering the public will be crucial to successful cleanup as well as pollution prevention efforts. NACD recommends that states integrate rigorous information and education components in their water quality management programs

We also recommend that the federal government provide financial and technical support to assist states in developing comprehensive water quality protection programs. Further, it is essential that all levels of government provide adequate technical and financial assistance to help land managers protect, improve and maintain our water resources. Helping landowners plan and carry out responsible land-use and management decisions will be the most effective approach to protecting and improving the quality of the nation's water.

## REGULATIONS

Within the national framework of the Clean Water Act, states must have the flexibility to establish program priorities and approaches best suited to their individual needs. This includes developing the voluntary and regulatory mixes that work best in each individual state. NACD specifically endorses the use of iterative approaches whereby voluntary, incentives-based programs are the first-line approach.

In cases where land managers do not respond to voluntary approaches, NACD supports the concept of "bad actor" laws that provide for stronger regulatory measures where incentives fail to achieve results. Specifically, conservation district approved farm-level resource management plans should be required for all producers in watersheds where surface waterbodies or groundwater systems are impaired or where there is a probability that these waterbodies or systems will become impaired due to agricultural pollution. These plans should be developed based on an integrated evaluation of options for environmentally sound cropping systems and nutrient, pest, water, livestock and sediment management.

## FUNDING

Since funding is the single greatest impediment to solving nonpoint source pollution water quality problems, NACD strongly recommends that Congress fund Section 319 grants to states at a minimum level of \$500 million per year. This money should be made available to states for carrying out the nonpoint source pollution management programs mandated by the Act. In looking ahead to 1994 when state revolving loan fund programs have been fully capitalized, NACD recommends that Congress retain this roughly \$2 billion per year in the budget to continue addressing ongoing point and nonpoint source pollution problems. NACD further recommends that Congress greatly expand USDA's water quality program funding and responsibilities. These efforts should be carried out through local conservation districts, and coordinated with ongoing state and local conservation programs.



# **Statement of Associated Builders and Contractors**

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Presented By

**Scott McElwee**  
**McElwee-Scarborough Construction**

before the

**Subcommittee on Water Resources**

**House Public Works and Transportation Committee**

**May 11, 1993**

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**Speaking for the Merit Shop**

**729 18th Street, N.W.**  
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**(202) 637-8800**

Good morning. I am Scott McElwee with McElwee-Scarborough Construction. Our company, based in Gibbsboro, New Jersey, builds wastewater treatment facilities as well as other heavy construction projects. As a member of the Associated Builders and Contractors' (ABC) National Infrastructure Committee, I appreciate this opportunity to comment on reauthorization of the Federal Water Pollution Control Act (more commonly referred to as the Clean Water Act).

Associated Builders and Contractors represents over 16,000 contractors, subcontractors, material suppliers and related firms from across the country and from all specialties in the construction industry. Our diverse membership is bound by a shared commitment to the merit shop -- the most efficient construction technique in America. The merit shop philosophy of awarding construction contracts to the lowest responsible bidder, regardless of labor affiliation, through open and competitive bidding, assures taxpayers and consumers the most value for their construction dollar. With 75 percent of construction done today by open shop contractors, ABC is proud to be their voice.

I would like to commend Chairman Applegate and the members of the Subcommittee for undertaking such a comprehensive look at the nation's water quality. The costs of insufficient attention to clean water issues are indisputable. Non-point source pollution, leaking toxics, stormwater run-off and coastal pollution pose grave risks to water quality. Our nation's water quality and "environmental" infrastructure could not be more vital to our health, safety and overall quality of life.

While ABC members are concerned regarding a number of clean water issues, I will focus my comments today on funding for the construction of sanitary waste treatment facilities and the designation of wetlands.

#### **FUNDING**

ABC believes inadequate and insufficient wastewater treatment facilities represents a large segment of the clean water problems facing our nation today. According to the Environmental Protection Agency, there is a need for \$83.5 billion to meet current wastewater treatment demands and this will likely continue to rise.

The commitment Congress made with the states beginning in 1972 to clean up the country's waters by funding projects relating to water supply and wastewater treatment is responsible for the significant progress made in restoring the quality of our nation's waters. When Congress decided to turn the program over to the states in the Water Quality Act of 1987, a schedule was set to phase out direct grants for construction and provide seed money to the states to establish revolving loan funds. These funds would eventually become self-sustaining and fund the states' wastewater treatment construction needs.

Unfortunately, the \$18 billion funding level committed to in the 1987 Act to capitalize state revolving funds has not been met over time. ABC believes the federal government must meet its original commitment and supports a \$2 billion funding level through 1994 to accomplish that goal; however, President Clinton's budget request for FY 1994 is much lower at \$1.2 billion.

Currently, the federal government's participation in providing funding to the states for wastewater treatment needs is scheduled to end in 1994. At this critical juncture in our nation's clean water history, we believe a complete cessation of federal funds to the states for this vital environmental infrastructure need would be devastating.

States simply have not been provided enough time or seed money to sufficiently capitalize their revolving funds. There are also many small communities which do not have the capital base necessary to support a state revolving loan fund. In addition, there are a number of other serious and growing threats to clean water which we believe can be addressed by funding a continued water program.

Combined sewer overflows, for example, are a significant problem in over a thousand cities nationwide. Billions of dollars are needed to clean-up previously overlooked and outdated systems. Conceivably, an extended program can also address improved drinking water filtration or solid waste disposal facilities.

ABC supports continued federal funding beyond 1994 to further capitalize state revolving funds for the construction of wastewater treatment facilities or other environmental infrastructure projects. We would also endorse a limited grant program to provide necessary treatment facilities to small communities without the capacity to support large capital investments.

The Clinton Administration has recommended allowing the current authorization to expire, but then establishing a new four-year authorization for wastewater and other clean water projects. The proposed program would be authorized at \$2 billion a year starting with FY 1995.

Clearly, our clean water needs are vast and the federal government must maintain a certain level of participation. Shifting resources to state revolving funds to provide a self-sufficient program and stable revenue source is a productive use of federal funds. Requirements for state revolving funds should be as uncomplicated as possible to facilitate an accessible and efficient program.

Other forms of innovative financing and cooperative efforts will expand the power of federal resources and should be encouraged. Privatization and public-private partnerships for example, are being used more frequently to augment federal, state

and local activities -- and they work. These efforts bring the experience, business savvy and financial strength of the private sector to government entities for the benefit of all.

ABC urges the committee to rely on market incentives rather than pursuing taxes to induce environmental conformance. In addition, any funding plan should consider that states will have to impose user fees to meet their share requirements.

Continued federal funding is not a panacea. A long-term integrated plan which takes into account new environmental problems and establishes realistic and achievable clean water goals should be adopted. We also believe every state must develop an environmental needs inventory and strategy for the future to ensure efficient management of resources.

#### **WETLANDS**

Another major concern of ABC members related to reauthorization of the Clean Water Act is wetlands. As contractors, our members have experienced significant problems with wetlands regulations.

ABC recognizes the environmental value of wetlands and is concerned by the recent estimates of significant wetland loss. We wholeheartedly support efforts to protect legitimate wetlands but believe a more streamlined and efficient process is in order.

The evolution of wetlands regulation is at the root of the problem. Regulations were established on a piece-meal basis as the ecological importance of wetland areas was realized and became increasingly valued.

Section 404 of the Clean Water Act is considered the primary statute providing for the protection of wetlands by requiring a federal permit for all dredging and filling activities. Additional wetland protections are contained in the Fish and Wildlife Service Act, the Wildlife Coordination Act and the 1985 Food Security Act. Furthermore, the preservation of wetlands is governed by four different federal agencies with 32 states possessing additional laws which address wetland issues.

The Federal Manual for Identifying and Delineating Jurisdictional Wetlands was adopted in 1989 to coordinate governmental policies and provide technical guidance for wetland regulation and use. In actuality, the manual dramatically extended areas regulated as wetlands and the jurisdiction of the Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (Corps) over an already poorly functioning program. Additionally, the manual went into effect without public notice, without an opportunity for public comment and without any grandfather provisions.

The Memorandum of Agreement on mitigation between the EPA and the Corps further extended wetland regulations by requiring extensive impact analysis for permit approval of wetland areas. The results have been long delays for permits and canceled projects.

Since the issuance of the 1989 manual, our members have experienced the costly brunt of improper wetland delineations. The inconsistencies allowed by the 1989 manual undermined its intent to provide a uniform national procedure for wetland identification and delineation.

ABC was pleased that the Energy and Water Development and Appropriations Act of 1993 included language to allow those having permit applications or enforcement actions pending as of August 17, 1991 to request re-delineation under the 1987 Army Corps of Engineers manual. It is our understanding that EPA is using the 1987 manual with regard to enforcement to be consistent with the Act. We would, however, encourage a clear policy statement to confirm their intent.

We are hopeful that the Clinton Administration will take into consideration the confusion which resulted since adoption of the 1989 manual. We are eager to work with the new administration to revise the manual and further streamline program requirements.

ABC recommends that strong emphasis be placed on the requirement that independent indicators of all three wetlands parameters (hydrology, vegetation and soils) be present to support wetlands determinations. We support strict adherence to the three component requirement and exceptions, if allowed, should be extremely limited and scientifically valid. However, there should be no exceptions to meeting the hydrology standard. The criteria used to identify wetlands hydrology, hydric soil and hydrophytic vegetation must also be explicit and accurate if the three parameter test is to be truly meaningful.

Regarding the criteria for wetland hydrology, the 1989 manual standard of inundation or saturation within 18 inches of the surface for 7 days in the growing season was inadequate and contributed to inappropriate wetlands designations. ABC supports requiring saturation at the surface for 21 or more consecutive days during the growing season. We recommend inundation also be required for 21 or more consecutive days during the growing season, rather than 15 or more days as proposed. Although we support the proposed definition of hydrology as a great improvement upon the 1989 manual, we encourage EPA to consider the merit of extending the surface saturation or inundation period to 30 or more days during the growing season.

The revised definition of hydrology is potentially undermined by the availability of indicators. Primary indicators should be

restricted to inundation at the surface or free water at the surface of an unlined bore hole. The presence of cumulative secondary indicators should be substantiated by corroborative evidence to meet the definition of wetland hydrology. Indicators must be evident enough so that they can be determined through routine field investigation. Requiring surface saturation will best allow for this.

Furthermore, the three year hydrology study is unworkable for most situations. Even in dry years (with the exception of droughts), a one year study of water table elevations is sufficient to characterize hydrology.

Regarding vegetation, facultative plants should not be used as indicators of wetlands since they are equally likely to grow in upland areas as wetland areas. In lieu of the prevalence index approach, which is costly and time-consuming, the presence of facultative plants should be neutralized and only dominant species evaluated: if obligate wetlands and facultative wetlands exceed obligate upland and facultative uplands, then the vegetation criteria would be satisfied.

With respect to soils, the National Technical Committee for Hydric Soils (NTCHS) criteria is inconsistent with proposed hydrology revisions and therefore must be revised to include only those soils meeting the revised hydrology standard.

ABC encourages expansion of the section on newly created wetlands to address man-made sediment ponds used on construction sites to divert storm water run-off. Contractors have expressed concern that temporary sediment basins or detention ponds can over time develop wetland characteristics. To avoid improper delineations, these man-made ponds (intended to temporarily divert storm water and prevent sediment from leaving the construction site) should be excluded from wetland delineations so that they can be removed, as intended, when construction is completed.

ABC supports revising the manual to insure more accurate and consistent wetland designations. We therefore believe these revisions should benefit all landowners, not just those whose property was delineated after August 14, 1991. The government should extend the right to request re-delineation in accordance with the revised manual to all landowners. Finally, ABC believes the manual should be extensively field tested to ensure a sound and workable process.

In addition to manual revisions, ABC believes the current wetlands regulatory system could be improved by streamlining the permit process, establishing an interagency technical committee to address wetlands categorization, implementing mitigation banking, and increasing the state role in the 404 program.

While these proposed changes are a step in the right direction, they do not sufficiently address or more importantly definitively resolve these vital issues. Land use policy of this magnitude must be addressed in a legislative forum where public participation is allowed. Comprehensive wetlands legislation is essential to clarify, consolidate and improve upon current law.

ABC commends Mr. Hayes for his comprehensive legislation to create a workable wetlands management program. H.R. 1330 recognizes the great value of wetland areas and outlines a plan to achieve protection while creating an equitable and efficient permit process. ABC supports H.R. 1330 which calls for the ranking of wetlands according to their ecological value, restricts EPA's regulatory role, and allows for mitigation activities.

ABC supports a fair and balanced approach to classifying wetlands which takes into consideration environmental benefits and economic security.

Clearly, the layers of regulatory authority over wetland protection must be streamlined. While some larger contractors have the capability to manage the permit process in-house, most companies must hire environmental consultants to wade through the complicated permitting process at great expense.

ABC believes all authority for wetland permits should be transferred to the Corps with no EPA veto authority. Additionally, establishing a clear permitting process with an outlined timetable is critical for necessary planning functions. To further expedite the permit process, ABC believes the use of general permits should be expanded.

Recognizing all wetland areas are not equal, ABC supports a priority ranking system to classify wetland areas and appropriate use. Distinct definitions for wetland areas must be articulated and regional differences must be taken into account.

In a wetlands classification system, the strict sequencing test (avoidance, minimization and mitigation) for obtaining permits should only apply to the highest valued wetlands. A more balanced approach, taking into account cost/benefit issues, should be utilized for less environmentally sensitive areas.

ABC supports mitigation efforts to protect and compensate for the loss and degradation of wetland functions and values. We believe any effort to improve wetland management should consider the use of a mitigation banking system to restore, enhance or create wetlands when appropriate.

ABC believes compensation must be made available to landowners whose land is significantly devalued or deemed unusable under wetland classification guidelines. With three quarters of the

nation's wetland areas being privately owned, it is imperative to enact a rational and reasonable policy which balances protection of valuable wetlands with the rights of private property owners.

Finally, ABC believes it is vital for states to play an active role in developing and defining wetlands policy. States should be encouraged to assume greater responsibility of the 404 program. States should also be allowed to tailor the categorization program to fit their individual circumstances. In cases where applicable, joint federal and state permit review should be considered. In all cases, however, the method of delineating wetlands should be consistent between state and federal programs.

On behalf of the Associated Builders and Contractors, I again want to thank the committee for the opportunity to be here today. I will be happy to answer any questions you may have.

STATEMENT OF HON. JAMES L. OBERSTAR  
SUBCOMMITTEE ON WATER RESOURCES  
COMMITTEE ON PUBLIC WORKS  
Hearings on Clean Water Act  
April 21, 1993

Mr. Chairman, thank you for the opportunity to appear before you, to speak on behalf of my draft Nonpoint Source Pollution Prevention Act, legislation to strengthen the nonpoint source provisions of the Clean Water Act.

We have just been given a timely and dramatic illustration of the need for this legislation. In the last few weeks, thousands of residents of Milwaukee, Wisconsin, were stricken by a flu-like illness, traced to the protozoan *Cryptosporidium*. This is a waterborne organism which entered the city's drinking water system, in all probability, from a farm on a tributary to Lake Michigan, from which Milwaukee draws its water, and passed through the treatment system unhindered.

We call such disease organisms, toxics, sediment and nutrients, which originate on farms, forests, construction sites, city streets and mines "poison runoff," or "nonpoint source pollution." It is the last remaining major gap in Clean Water Act pollution control measures.

Though outbreaks like the one in the Milwaukee are not common, they are far from rare. EPA reports 76 such outbreaks of waterborne disease, striking 67,000 people, in the 5-year period 1986 to 1990. EPA stresses that these figures grossly under-represent the real incidence of such diseases.

While drinking water treatment must remain the first line of defense against waterborne pathogens, pollution prevention in this as in every other case could reduce the costs of water purification, spare our citizens the possibility of disease from organisms that get through the treatment process, and reduce industry costs as well.

The Federal Water Pollution Act Amendments of 1972 set the nation on its current cleanup course. As Committee Administrator at that time, I find myself now the only Member of Public Works and Transportation who remembers and contributed to the effort that went into its enactment.

The first line of that landmark legislation, in Section 101(a), declared it the objective of the Act "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Congress added, in the 1987 amendments, "it is the national policy that programs of the control of nonpoint sources of pollution be developed and implemented in an expeditious manner so as to enable the goals of this Act to be met through the control of both point and nonpoint sources of pollution."

Since 1972, American citizens as Federal and State taxpayers have spent \$75 billion to clean up municipal point sources. Through 1989, industry, and citizens as consumers, have spent over \$130 billion on cleaning up industrial point sources, including \$67 billion in capital expenditures and \$63 billion in operating costs. Ninety percent of municipalities, and 95% of industry, currently comply with the Act.

Yet, despite that costly sacrifice, and high compliance rate, fully one-third of the Nation's assessed waters have not attained water quality standards. Less than half of our total waters have been assessed, meaning that a much more significant though unknown number of waterbodies are impaired, and more are threatened.

The major cause of this failure to meet the standards is nonpoint sources of pollution – or poison runoff – the unfinished agenda of the 1972 Act.

The National Research Council has estimated that the total economic costs associated with agricultural runoff alone are between \$2 billion and \$16 billion per year – and this is only one category of nonpoint sources! As this Subcommittee well knows, the Army Corps of Engineers alone spends about \$450 million a year dredging sediment from our harbors and waterways. Many industries have to treat water before they use it because it is too befouled for their processes. They treat it again at the end of their process and return it cleaner at the outfall than at the intake. How much cheaper to keep pollutants out of the water in the first place!

Mr. Chairman, it is time to complete the task set forth in 1972, to attain the objective of chemical, physical and biological integrity of the nation's waters, and to make sure that the American people, who have already paid so dearly, get their money's worth in terms of fishable, swimmable waters, or as the Act more elegantly if ponderously terms it, "protection and propagation of shellfish, fish and wildlife, and recreational activities in and on the water."

As author of Section 319 of the Clean Water Act, Nonpoint Source Management Programs, which became law as part of the 1987 Amendments, I have developed and circulated a discussion draft of new legislation which would strengthen Section 319, treat nonpoint sources with the same determination as we have addressed point sources, and at long last close the last remaining gap in the Clean Water Act.

This draft is intended to build on the assessments and planning which should have already been done under Sections 208 and 319; and not to impede actions taken since, under Section 319, under the Coastal Zone Act Reauthorization Amendments (CZARA) of 1990, and, under the Department of Agriculture's Water Quality Incentive and other conservation programs. For example, a farmer participating in certain USDA programs such as the Water Quality Incentives Program would be considered in compliance with my bill.

The bill rests on shared responsibility: the States and, to the extent possible, local jurisdictions and organizations, would be the main implementors, along with individual land owners/operators. The Federal government, as it does now, would provide direction, guidance, and financial support.

The program is based on watersheds, and targets those which are impaired or threatened.

The bill tracks closely the recommendations of Water Quality 2000. It includes site-level plans, voluntary and enforceable state programs, and reliance on the expertise of USDA and other agencies for technical assistance and funding. It builds on existing Section 319 programs, adopts the management measures developed by EPA and the National Oceanographic and Atmospheric Administration under CZARA as well as the enforceable mechanisms required by that Act; and uses the site-level approach of various Department of Agriculture conservation and water quality programs.

It offers incentives for so-called "good actors," those who have and are implementing approved site-level plans, while preparing a necessary enforcement fall-back for "bad actors" who refuse to clean up.

The bill sets as a goal the full restoration and protection of the nation's waters. This is defined as the attainment and maintenance of water quality standards; the protection and propagation of a balanced, indigenous population of aquatic and aquatic-dependent species, aquatic ecosystem biodiversity, and habitat restoration and maintenance; protection of public

health; restoration and maintenance of recreational activities in and on the water; and protection of underwater sediments through pollution prevention activities.

It requires states to revise their on-going management programs under Section 319, targeting those watersheds which are classified as impaired or threatened under various CWA provisions. States are to prioritize these watersheds, divide them into fifths, and implement Watershed Implementation Programs, starting with a new fifth each year.

The Watershed Implementation Programs would be composed of site-level plans (patterned on USDA's site-level plans for agriculture) developed by land owner/operators along the watershed. The program would borrow heavily on the Soil Conservation Service's technical assistance and experience in working with farmers, to help them develop these plans. EPA would approve the states' revised plans, but not the individual site-level plans.

Implementation would be an iterative process. Four years after implementation, the state would assess the watershed and, if full restoration and protection have not been achieved, would require additional measures, either by owner/operators already implementing plans, or by other sources. This process would be repeated every two years thereafter until full restoration and protection have been achieved. Monitoring in subsequent years would assure that full restoration and protection are maintained.

The bill requires states to develop enforceable mechanisms -- as are already required for coastal states under CZARA. As long as an owner/operator has developed and is implementing a state-approved site-level plan, he or she would not be subject to enforcement.

The bill also ensures that states will participate in the program. Under the point source enforcement program, the National Pollutant Discharge Elimination System (NPDES), EPA can take over and implement a state's permit program if the state no longer meets the requirements of Section 402. However, I did not believe it appropriate for EPA to become involved in implementing site-level plans under a nonpoint program. Therefore, while EPA could under my bill develop a nonpoint source management program for a state, it would not be able to implement this program. Rather, the state not meeting nonpoint requirements would not be able to approve new (as opposed to simple extension of existing) Section 402 permits, or Section 404 permits, either statewide or, if other watersheds are complying, in a single non-complying watershed, until EPA finds the state is meeting requirements.

The bill also establishes a Federal nonpoint source control program, directly under the President, for lands owned or managed by the Federal government.

It requires EPA to establish water quality criteria for those nonpoint pollutants for which such criteria have not yet been set.

It codifies existing Federal antidegradation policy.

It contains provisions to assure that new sources of nonpoint source pollutants are identified prior to any action being taken, and that state-of-the-art controls are used on these new sources before they cause pollution.

And, finally, the bill creates a Citizen Watershed Monitoring Program to assist states in monitoring their waters. The states would by contract, cooperative agreement or other means develop citizen programs, provide training, and implement quality control and assurance measures to make sure that the data gathered by citizens are useful to the state. The nonpoint and other amendments to the CWA will put heavy monitoring burdens on states, and I believe a citizen program, properly designed and run, can assist states in this effort.

Finally, comes the crucial element of funding for this program. I have tentatively proposed \$100 million per year from the State Revolving Fund. I would welcome other suggestions, both on the adequate level, and the source, since loans are not always as easily made to individual land owners/operators as to municipalities. Hopefully, the Soil Conservation Service will remain a major source of assistance for farmers implementing site-level plans under the Water Quality Incentives and other USDA programs as well as this one.

Also, the States will need adequate administrative funding for this and the other new tasks that will be imposed upon them under the new legislation. I fully sympathize with the complaints of the states as to ever-increasing federal mandates with no concomitant increase in federal funds.

I know that this Committee will face many competing demands for funding as you develop the bill; but since nonpoint sources are the major cause of water pollution, I would hope that this program would receive a share of control and prevention funding commensurate with the task.

Mr. Chairman, I believe that this bill is fair and necessary, if America is to achieve the goal of clean water. We have several choices. We can continue to charge taxpayers and industry for ever-more-costly wastewater treatment and for maintenance of navigation on silt-choked rivers. We can continue to inflict losses on commercial fishing and shellfishing, and deny water recreational opportunities to our people. Or, we can finally consummate the goal of the 1972 Act, and close the last remaining gap in that Act's ability to protect America's waters.

I would add that the bill is a discussion draft. It has been very widely distributed, and I have begun to receive comment on it. I hope to have the bulk of the comments by the end of this month, then to review them and incorporate as much as possible in a revised version.

Ultimately, of course, I hope my Nonpoint Source Pollution Prevention Act can be included in the Clean Water Act Amendments you will be writing later this year. I will be happy to work with you and your staff on this, and look forward to doing so.

## NONPOINT SOURCE WATER POLLUTION PREVENTION ACT OF 1993

## Summary

**GOAL:** To attain, within three decades of the enactment of the Federal Water Pollution Control Act of 1972, restoration and maintenance of chemical, physical and biological integrity, by closing last gap in that Act, and controlling and preventing nonpoint sources of pollution.

**GUIDING PRINCIPLES:**

- . Stability and continuity: least disruption to, maximum coordination with, on-going programs – Section 319, Clean Water Act (CWA); Section 6217(g) of the Coastal Zone Act Reauthorization Amendments (CZARA); USDA's water quality programs
- . Shared responsibility: States and, to extent possible, local jurisdictions and organizations, to be main implementors, along with individual land owners/operators; Federal government to provide guidance and financial support
- . Base program on watersheds, targeting those which are impaired or threatened

**DISCUSSION**

The bill is patterned on the recommendations of Water Quality 2000 for a strengthened and expanded national nonpoint source pollution prevention program including enforceable state programs, site-level plans, reliance on the expertise of USDA and other agencies for technical assistance, and funding from a revolving loan fund. It builds on existing Section 319 Clean Water Act Nonpoint Source Management programs; adopts the management measures developed under the Coastal Zone Act Reauthorization Amendments as well as that Act's enforceable mechanisms; and uses the site-level approach of various Department of Agriculture programs.

The bill is fair and necessary, if America is to achieve the goal of clean water. American consumers, taxpayers and industry have paid hundreds of billions of dollars for point source controls, but the goal remains illusive because of nonpoint source pollution. The nation can continue to charge taxpayers and industry for ever-more-costly wastewater treatment and for maintenance of navigation on silt-choked rivers; can continue to inflict losses on commercial fishing and shellfishing, and recreational water uses; and perpetuate degradation of our water resources and the wild and aquatic life dependent on them; or address the problem of nonpoint sources, the last remaining gap in the Clean Water Act's programs.

**DESCRIPTION****Schedule**

- . Within 1 year of enactment, EPA to publish implementing regulations and guidelines
- . Within two years of publication, States to revise nonpoint management programs, identifying and prioritizing watersheds to be included in program, dividing them into fifths for implementation over a 5-year period

- . EPA has 6 months to approve or disapprove all or portion of program
- . Revised program to include watershed implementation plans, based on site-level plans developed in cooperation with land owners and operators, and other interested parties including point sources on the watershed.
- . Implementation is an iterative process, with a goal of full restoration and protection of America's waters within 15 years for all fifths
  - . First 4 years after approval – management measures; if full restoration and protection not achieved,
  - . 5th, 6th year – additional measures; if full restoration and protection still not achieved,
  - . 7th, 8th year – more stringent measures
  - . Beyond 8th year – continued application of more stringent measures until full restoration and protection are achieved.
  - . Monitoring to assure full restoration and protection maintained.

**Enforcement:** based on "good actors, bad actors"

- . State is required to have enforceable mechanisms
- . land owners/operators: identified o/o must develop and implement site-level plans; flexibility in identification provided
- . after sixth year, water quality standards become enforceable
- . "good actor" provisions: compliance with USDA conservation and water quality programs; with CWA NPS program and Sec. 402; with enforceable provisions of CZARA; with Chesapeake Bay Preservation Act; constitute compliance with this Act, act as shields against enforceable mechanisms
- . State: must revise and submit Nonpoint Management Program under Sec. 319;
  - if State does not submit, EPA designs program BUT **does not implement** if State does not submit or implement:
    - . no funds
    - . permits for new or increased discharges cannot be approved under Sec. 402, CWA; no permits under Sec. 404 of CWA;

**OTHER PROVISIONS**

- . creates a Federal nonpoint control program directly under the President
- . expands water quality criteria and standards to cover nonpoint pollutants
- . contains provisions for new sources of NPS
- . creates a Citizen Monitoring Program to assist states in monitoring

**COMMENTS:** Please address views and comments to

Rep. James L. Oberstar  
 2366 Rayburn House Office Building  
 U.S. House of Representatives  
 Washington, D. C. 20515

ATTN: Caroline Gabel  
 202/225-9161

STATEMENT OF CONGRESSMAN DAN SCHAEFER IN SUPPORT OF H.R. 340  
WATER RESOURCES SUBCOMMITTEE

MAY 11, 1993

Thank you, Mr. Chairman and Members of the Subcommittee for allowing me to testify on behalf of legislation I introduced, the Federal Facilities Clean Water Compliance Act.

For those members of the 102nd Congress, the title of this bill, H.R. 340, may have a familiar ring. For good reason. Just last year, Congress gave its overwhelming approval to similar legislation introduced by Representative Eckart and myself. That measure, which was signed into law last October, enhanced EPA's and the states' ability to enforce the Resource Conservation and Recovery Act (RCRA) at the nation's federal facilities. Unfortunately, our work is not yet finished.

Federal agencies, particularly the Departments of Energy and Defense, have also proven to have woefully inadequate incentives to comply with the Clean Water Act. Not surprisingly, as we discovered with RCRA, the lack of effective enforcement has translated into a federal facility non-compliance rate of about twice that of private industry. Far from setting a good example, we have found that federal agencies are continually among the worst violators of the nation's environmental laws.

In fact, as recently as September 1991, an alarming twenty percent -- one in five -- major federal facilities were cited by EPA as being in significant non-compliance with the Clean Water Act. Even more disturbing, a General Accounting Office study

showed that of those government facilities in violation of the CWA, more than 40 percent remained so for a year or longer. GAO's recommendation to Congress was clear: EPA and the states need to improve enforcement at federal facilities.

Unfortunately, efforts by state and federal regulators to improve compliance rates have been frustrated. Because Congress -- as the Supreme Court recently confirmed -- has failed to waive sovereign immunity under the Clean Water Act, federal agencies have largely been protected from state-levied civil penalties and administrative enforcement actions. This has set up the curious situation in which EPA and the states are prohibited from assessing against federal facilities enforcement methods they routinely use against private companies.

I believe this double-standard must stop. There is simply no reason why the federal government should not be forced to abide by the same rules it imposes on others. H.R. 340 would correct this inequity by waiving sovereign immunity for violations of the Clean Water Act, thereby subjecting federal agencies to state and EPA enforcement actions. It is closely modeled after last year's successful RCRA effort which -- by the way -- passed the House with three no votes.

Recently, I spoke with individuals in the federal facilities office at EPA regarding the effect waiving sovereign immunity has had on their ability to enforce provisions of the RCRA statute. The answers I received were encouraging. I was told that while just months ago federal environmental regulators were dealing with lieutenants and captains, that now they are finding generals

across the table. I believe this is the kind of priority the American people -- particularly those living near federal facilities -- would want placed on protecting the environment.

It is with no pride of authorship that I bring this legislation to this Committee. In fact, having just finished a five-year struggle on the RCRA side, I would certainly have no objection to its inclusion in the upcoming Clean Water Act reauthorization bill. In fact, I urge the Committee to do just that and would welcome an opportunity to work with you in that regard.

In closing, I would ask that a resolution adopted unanimously by the National Association of Attorneys General in support of H.R. 340 be made a part of the record. Again, I thank the Subcommittee for allowing me to testify and would be pleased to answer any questions you may have.

103D CONGRESS  
1ST SESSION

# H. R. 340

To amend the Federal Water Pollution Control Act relating to Federal facilities pollution control.

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## IN THE HOUSE OF REPRESENTATIVES

JANUARY 5, 1993

Mr. SCHAEFER introduced the following bill; which was referred to the Committee on Public Works and Transportation

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## A BILL

To amend the Federal Water Pollution Control Act relating to Federal facilities pollution control.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the "Federal Facilities  
5 Clean Water Compliance Act of 1993".

6 **SEC. 2. APPLICATION OF CERTAIN PROVISIONS TO FED-**  
7 **ERAL FACILITIES.**

8 (a) IN GENERAL.—Section 313(a) of the Federal  
9 Water Pollution Control Act (33 U.S.C. 1323(a)) is  
10 amended—

1           (1) by striking the third sentence and inserting  
2           the following new sentences: "The Federal, State,  
3           interstate, and local requirements, administrative  
4           authority, and process and sanctions referred to in  
5           this subsection include, but are not limited to, all  
6           administrative orders and all civil and administrative  
7           penalties and fines, regardless of whether such pen-  
8           alties or fines are punitive or coercive in nature or  
9           are imposed for isolated, intermittent, or continuing  
10          violations. The United States hereby expressly  
11          waives any immunity otherwise applicable to the  
12          United States with respect to any such requirement,  
13          administrative authority, and process and sanctions  
14          (including, but not limited to, any injunctive relief,  
15          administrative order or civil or administrative pen-  
16          alty or fine referred to in the preceding sentence, or  
17          reasonable service charge). The reasonable service  
18          charges referred to in this subsection include, but  
19          are not limited to, fees or charges assessed in con-  
20          nection with the processing and issuance of permits,  
21          renewal of permits, amendments to permits, review  
22          of plans, studies, and other documents, and inspec-  
23          tion and monitoring of facilities, as well as any other  
24          nondiscriminatory charges that are assessed in con-  
25          nection with a Federal, State, interstate, or local

1 water pollution regulatory program. No agent, em-  
2 ployee, or officer of the United States shall be per-  
3 sonally liable for any civil penalty under any Fed-  
4 eral, State, interstate, or local water pollution law  
5 with respect to any act or omission within the scope  
6 of the official duties of the agent, employee, or offi-  
7 cer. An agent, employee, or officer of the United  
8 States shall be subject to any criminal sanction (in-  
9 cluding, but not limited to, any fine or imprison-  
10 ment) under any Federal or State water pollution  
11 law, but no department, agency, or instrumentality  
12 of the executive, legislative, or judicial branch of the  
13 Federal Government shall be subject to any such  
14 sanction.”; and

15 (2) by striking the sentence which begins “No  
16 officer, agent, or employee”.

17 (b) ADMINISTRATIVE ENFORCEMENT ACTIONS.—  
18 Section 313 of such Act is further amended by redesignat-  
19 ing subsection (b) as subsection (c) and by inserting after  
20 subsection (a) the following new subsection:

21 “(b) ADMINISTRATIVE ENFORCEMENT ACTIONS.—

22 “(1) IN GENERAL.—The Administrator may  
23 commence an administrative enforcement action  
24 against any department, agency, or instrumentality  
25 of the executive, legislative, or judicial branch of the

1 Federal Government pursuant to the enforcement  
2 authorities contained in this Act. The Administrator  
3 shall initiate an administrative enforcement action  
4 against such a department, agency, or instrumental-  
5 ity in the same manner and under the same cir-  
6 cumstances as an action would be initiated against  
7 another person. Any voluntary resolution or settle-  
8 ment of such an action shall be set forth in a con-  
9 sent order.

10 “(2) OPPORTUNITY TO CONFER.—No adminis-  
11 trative order issued to such a department, agency, or  
12 instrumentality shall become final until such depart-  
13 ment, agency, or instrumentality has had the oppor-  
14 tunity to confer with the Administrator.”.

15 **SEC. 3. DEFINITION OF PERSON.**

16 Section 502(5) of the Federal Water Pollution Con-  
17 trol Act (33 U.S.C. 1362(5)) is amended by inserting be-  
18 fore the period the following: “and shall include each de-  
19 partment, agency, and instrumentality of the United  
20 States”.

**AMERICAN WATER WORKS ASSOCIATION  
TESTIMONY BEFORE  
THE SUBCOMMITTEE ON WATER RESOURCES  
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION  
U.S. HOUSE OF REPRESENTATIVES**

**ON  
THE REAUTHORIZATION OF THE CLEAN WATER ACT**

**PRESENTED BY  
JOHN H. SULLIVAN  
DEPUTY EXECUTIVE DIRECTOR  
AMERICAN WATER WORKS ASSOCIATION**

**May 11, 1993**

**INTRODUCTION**

Good morning, Mr. Chairman, members of the Subcommittee. My name is John H. Sullivan. I am the Deputy Executive Director of the of the American Water Works Association (AWWA) and I am here on behalf of the members of AWWA to present the association's views on the reauthorization of the Clean Water Act.

I want to thank you and the members and staff of the Subcommittee for providing us the opportunity to comment on the reauthorization of the Clean Water Act (CWA). AWWA and its members commend you and the other members of Congress who are taking the leadership on this issue of vital concern not only for the environment but for public health in America. AWWA supports efforts to assure continued high quality water resources for the nation.

AWWA is the world's oldest and largest scientific and educational association of water supply professionals. Founded in 1881, we now have over 55,000 members. We include public drinking water departments and authorities, private companies, scientists, educators, engineers, managers, and individuals engaged in the water supply profession. Our members represent over 80 percent of the drinking water delivered in the United States. In addition, many of our members have dual responsibility for both drinking water and waste water. The membership of AWWA comprises the most extensive network of knowledge and experience for the whole spectrum of water supply concerns. The AWWA expertise encompasses managers and operators running public water systems, public health officials overseeing regulatory programs, engineers designing distribution systems, scientists analyzing water quality, researchers developing new treatment technologies, academicians studying innovative water management techniques, and educators imparting knowledge concerning water. AWWA stands ready to share this knowledge and experience with you. As a scientific and educational organization, the purpose of AWWA is, and has been since its founding, to promote public health, safety and welfare through provision of quality drinking water. As such, we have a continuing interest in protecting America's water supply from contamination.

## ENVIRONMENTAL CONTAMINATION OF DRINKING WATER

Today, the people of the United States enjoy the highest quality safe drinking water in the World. Largely through the efforts of the members of AWWA over the years, water borne diseases from drinking water have been minimized in the United States. The Clean Water Act has been a significant factor in this effort by reducing the dumping of raw sewage and toxic substances into our nation's water. However, despite the advances made in cleaning up water pollution in America through the Clean Water Act, we still are faced with the continuing and growing problem of environmental contamination of drinking water from pollution in our nation's source water. This is a challenge we in America must address to provide safe drinking water for ourselves and our posterity.

This challenge was dramatically illustrated for the nation by the recent outbreak of disease in Milwaukee, Wisconsin, in March and April of this year. The disease outbreak was caused by a protozoan, called Cryptosporidium, that contaminated the drinking water in Milwaukee and ten surrounding communities. Dr. Jeffrey P. Davis, the state epidemiologist, estimated that the disease sickened at least 183,000 people and possibly as many as 281,000. Six deaths are being investigated in which Cryptosporidium may have been a contributing factor.

Studies on the environmental occurrence of Cryptosporidium began in 1985 and in 1988 the Environmental Protection Agency (EPA) added Cryptosporidium to the Drinking Water Priority List for possible future regulation, but it is currently not regulated under the Safe Drinking Water Act (SDWA). According to the National Academy of Science, Cryptosporidium qualifies as one of the new and emerging microbes that could spring up to threaten the nation's health. The detection, treatment and removal of Cryptosporidium is very difficult. In response to the growing cases of cryptosporidiosis in humans since 1976, the American Water Works Association Research Foundation has undertaken a total of 35 projects costing \$9.2 million relating to Cryptosporidium. AWWA, in conjunction with EPA, conducts the only analytic method training available for Cryptosporidium.

In a statement presented to the subcommittee in August 1991, AWWA highlighted the growing problem concerning Cryptosporidium. The Milwaukee case is only the latest and most publicized. In January 1987, an outbreak occurred in Carrollton, Georgia, with 10,000 estimated cases. In Medford (Jackson County), Oregon, an outbreak occurred during the months of January through June of 1992 with an estimated 3,000 to 15,000 cases of cryptosporidiosis. Additionally, there may have been many more smaller outbreaks that have not been documented because individual doctors may not have been aware of the cause of the illness they were treating or if the illness was part of a larger pattern. Clearly, pollution prevent in our nation's drinking water sources, is necessary to help protect the American people from Cryptosporidium as well as other waterborne pathogens and toxic chemicals.

The case of Cryptosporidium in Milwaukee serves as clear indication that the Clean Water Act requires amending to further protect the health of the American people. The Safe Drinking Water Act alone, without measures in the Clean Water Act to address pollution of drinking water supplies, cannot do the job. In the remainder of this statement, we would like to briefly bring several issues and concerns to the attention of the Subcommittee which will help protect our nation's drinking water sources, as well as other issues related to drinking water. AWWA believes that these issues should be addressed during the reauthorization of the Clean Water Act

and appropriate amendments to the Act made.

### **PROTECTION OF DRINKING WATER SOURCE SUPPLIES**

Conspicuous by its absence in the Clean Water Act, is any consideration of the protection of drinking water sources as a major goal of the Act. The Congressional Declaration of Goals and Policy of the Clean Water Act states that it is a national goal to achieve water quality that provides for the protection and propagation of fish, shellfish, and wildlife, and provides for recreation in and on the water. In addition, Section 304 requires that the Environmental Protection Agency (EPA) provide guidance on the factors necessary to protect aquatic life and recreational activities in and on the water, and Section 305 requires state reports on water quality to address their progress in achieving water quality that protects aquatic life and allows water recreational activities. Clearly missing from these sections is the protection of water as a drinking water source. AWWA strongly recommends that the Clean Water Act provide the same status for protection of drinking water sources as it does for the protection and propagation of fish, shellfish, wildlife, and recreation.

The Congressional Declaration of Goals and Policy should include the protection of drinking water sources and public health in the objective of the Act. This is essential, so that protection and consistent emphasis is provided in all sections of CWA, especially where program development is required to carry out the objectives of the Act.

Further, this change to the Clean Water Act would compliment and thus be consistent with the Safe Drinking Water Act (SDWA), by requiring the development of programs to provide for the protection of drinking water sources. The SDWA emphasizes source water protection and encourages water purveyors to use the highest quality sources. National Primary Drinking Water Regulations require public water systems to conduct sanitary surveys which emphasize the characterization of actual and potential pollutant sources for the drinking water supply and identify measures which should be taken to improve drinking water quality. An amendment to the Clean Water Act is needed which would protect drinking water sources. The amendment would provide for the development of programs to implement sanitary survey recommendations to control the discharge of contaminants regulated under the SDWA and other pollutants in drinking water sources, including microbial and toxic contaminants.

In Section 304 of the Act, the EPA Administrator should be required to provide information to the states on factors necessary for the protection of public water supplies to help them develop water quality criteria and effluent limitations which adequately protect public water supplies.

Section 304 of the Act requires the EPA to promulgate regulations concerning, among other things, the monitoring requirements for National Pollutant Discharge Elimination System (NPDES) permitted discharges. However, the current monitoring requirements for point source discharges are not specific enough with respect to all designated uses. Additional monitoring requirements are necessary to cover pollutants whose levels are regulated in drinking water as contaminants by the National Primary Drinking Water Regulations promulgated pursuant to the SDWA. Clearly, monitoring for regulated drinking water contaminants should be required for discharges to navigable waters which are also designated as source water supplies for drinking water. Further, the public health effects of curtailing any discharge should be considered as well

as the effects on fish, shellfish and wildlife. We believe that water quality standards must be broad enough to address the critical issue of balancing both the human health and ecological risks. These standards should continue to be set by the states based on greatly improved guidance from the federal level.

In Section 305 of the Act, the state reports on water quality should be required to include information concerning the extent to which all navigable waters of the state provide for the protection of public water supplies. The Clean Water Act primarily provides for reducing the discharge of pollutants to already impaired water bodies and does not focus on pollution prevention for those water bodies at risk of water quality degradation. The state water quality report, being the primary source of water quality information for all navigable waters of a state, identifies water quality problems which require attention in state water quality control plans. Clearly the protection of drinking water source water supplies should be a key element of these plans. Planning efforts should be directed to execution on a watershed or aquifer basis to adequately control critical water resources for all intended purposes and with a full understanding of both quality and quantity issues.

### **NON-POINT SOURCE POLLUTION**

AWWA believes that the control of non-point source pollution is a critical component of the Clean Water Act. The current provisions of the Clean Water Act have reduced water pollution from point sources (end-of-pipe). Water pollution could be reduced further through the control of non-point sources such as agriculture runoff, combined sewer overflows and urban storm sewer runoff. In particular, agriculture runoff containing herbicides and pesticides is found with increasing frequency and at high concentrations in rivers and streams and poses an ecological and public health threat.

Public water suppliers have been active on non-point source pollution from agriculture sources. The Missouri River Public Water Supply Association (MRPWSA) has conducted an intensive monitoring study of the Missouri River by analyzing samples collected from sites on a daily basis in May, June and July. The sites were selected to bracket the major tributaries feeding into the lower Missouri River and also based on their proximity to a U.S. Army Corps of Engineers river gaging station. A total of 589 samples were analyzed in 1991. Of the 589 samples, the following herbicides were measured above the detection level: simazine was detected 2 times; alachlor was detected 104 times; and atrazine was detected 441 times. 165 samples were above the atrazine maximum contaminant level (MCL). The average atrazine concentration ranged from 0.72 micrograms/liter (ug/l) to 3.22 ug/l at the sampling sites. The maximum atrazine concentration ranged from 6.71 ug/l to 11.10 ug/l at the sampling sites. The study was repeated during 1992 and is now in progress for 1993. The data from 1992 is not yet fully analyzed; however, it shows the same general trends as in 1991, with several days above the MCL.

In addition, the United States Geological Survey (USGS) is monitoring herbicide concentrations at several Midwestern locations. In 1989 and 1990, USGS conducted a reconnaissance study from 149 randomly selected sites in 122 river basins. Samples were collected in three phases during March and April (pre-planting); in May and June (post-planting); and in October and November (harvest). Fifty samples were collected in the first phase and 12 and 145 in the second and third phases, respectively. Atrazine was detected in 91 percent of

the pre-planting samples and 98 percent and 76 percent of the post-planting an harvest samples, respectively. Several of the herbicides were found to exceed their MCLs. 52 percent of the sites exceeded the atrazine MCL, 32 percent for alachlor, and 7 percent for simazine. 29 percent of the sites exceeded four times the atrazine MCL, which would cause an immediate violation of the Nation Primary Drinking Regulations promulgated pursuant to the SDWA for a public water system. Exceedances of the MCLs were also found for combinations of herbicides. In the post-planting phase, 23 percent of the sites exceeded the MCLs for two herbicides and ten percent for three herbicides.

AWWA feels that this data indicates a potential problem with pesticide and herbicide contamination in drinking water sources. The contamination levels for a multi-month period pose a potential problem to public health without final drinking water treatment. This issue alone could force installation of extensive granular activated carbon at billions in capital expenditures that will be a burden on the public at large, rather than the "polluter." This potential problem could be reduced by addressing the issue under non-point source pollution in the reauthorization of The Clean Water Act.

Other non-point sources of pollution should be controlled such as nitrates from fertilizer runoff which can cause methemoglobinemia or "blue-baby syndrome" and runoff from cattle feeds lots which contain a much higher concentration of pathogenic organisms such as Cryptosporidium than natural background concentrations. Overflows from combined sewers can also increase the concentration of pathogenic organisms and other pollutants during storm events. Additionally, urban storm sewer runoff contains many pollutants such as oil, gasoline and other synthetic organic chemicals. The use of best management practices can greatly reduce the pollutant load from non-point sources such as agricultural runoff, combined sewer overflows, and urban sewer runoff. We recommend that the Clean Water Act be amended to reduce pollution from these sources.

Section 402 of the Clean Water Act provides an exemption from NPDES permit requirements for agriculture return flows. As a result, the return flows to the nation's waters is not strictly regulated nor are there monitoring requirements. A monitoring program is necessary to identify contaminants and determine their levels and assess. With this information, the effects of the contaminants and best management practices can be established to minimize the discharge of the contaminants and protect the source water supply as designated use of the nation's waterways. In addition, monitoring agriculture non-point sources of pollution is necessary to implement and evaluate the progress of the Agriculture Water Quality Protection Program which will be developed pursuant to Section 1439 of the Food, Agriculture, Conservation, and Trade Act of 1990 (1990 Farm Bill). The present language of the Clean Water Act is clearly inadequate for these purposes. An amendment which requires monitoring may lead to better management practices of agriculture, silviculture (forestry) and livestock management that are more beneficial to the enhancement of water quality and protection of the environment and public health.

### WATER CONSERVATION

Water conservation is an effective method of reducing per capita water consumption which will, in turn, reduce sanitary sewer influent. AWWA supported the plumbing products efficiency standards enacted in the Energy Policy Act of 1992 in the 102nd Congress. The

members of AWWA have developed, funded, implemented and evaluated most of the water conservation measures being used today. Typical water conservation measures include:

- the use of low-flow plumbing fixtures.
- distribution system leak detection and repair programs.
- toilet leak detection and repair programs.
- metering of all water service connections.
- low-water demand landscaping (xeriscaping).
- conservation water rate structures,
- public information and education.

Water conservation research is an area which deserves increased emphasis in the Clean Water Act. However, regulatory authority for drinking water conservation should be placed under the Safe Drinking Water Act or in separate conservation legislation since water conservation affects many statutorily diverse programs. It is critical that attention also should be paid to interagency coordination of water conservation among EPA, the Bureau of Reclamation, the US Army Corps of Engineers, etc. Often multiple federal agencies are working on the same task without each other's knowledge. AWWA suggests the establishment of a National Clearinghouse on Water Conservation.

We also suggest other conservation measures such as the use of alternate sources of water supply, including desalinization and reclaimed water. Section 303 of the Act, outlining requirements for the development of water quality standards should aggressively encourage the effective reuses of reclaimed water in ephemeral streams, creation of reclaimed water dominated streams to recharge aquifers and other beneficial use of reclaimed water which would promote water conservation and not pose a threat to public health or the environment.

AWWA supports efforts to establish a positive federal guidance role in water conservation that is beneficial to customers and purveyors of water alike. Because of widely divergent conditions throughout the nation, water conservation programs should be controlled at the local level and tailored to the specific conservation needs of the area.

## WETLANDS

Wetlands are important natural resources deserving protection. True wetlands have a significant ecological function and are critical to water quality and supply. Drinking water supply facilities by their very nature are directly connected to wetlands. The dual objectives of supplying adequate quantities of safe drinking water, while at the same time enhancing the national wetlands resources, must be achieved wherever possible so that high quality, adequate water supplies are not sacrificed for wetlands, nor vice versa. Many modern drinking water development projects can be consistent with the goal of achieving a no-net-loss of wetlands. Because wetland ecosystems vary widely, they are not all of equal quality or functional value. Wetlands must be indexed according to functional value and protected accordingly to balance the true water demands of the future for both human and ecological purposes.

Public water supply projects involve public policy considerations unique to drinking water and essential to the protection of public health. Even though public water supply projects are water dependent, they are evaluated under the same procedures and guidelines used for other

projects which are not water dependent or are not essential for public health. Additionally public water supply projects must be planned two to five decades in advance of need; therefore, a reliable stable regulatory system is essential to assure the future drinking water needs of the American people. AWWA supports changes to the Section 404 permit process to achieve an effective, equitable and predictable regulatory system to meet the objectives of preserving wetlands and meeting justifiable water supply needs for the future and to protect public health.

#### COMPLIANCE ASSISTANCE AND FUNDING

And as our final point, AWWA supports the continuation of the federal contribution to the Clean Water Act state revolving fund (loan) program. We further suggest consideration of supplementing the state revolving funds through a tax on polluters (pesticides, herbicides, fertilizers, etc.) to support clean up efforts resulting from non-point source pollution. Some type of economic incentives should also be considered for enhanced water quality and efficient water demand. The overwhelming requirements of environmental laws and regulations on small communities must be mitigated. Although the details for administering such a program and achieving the goals of environmental laws need to be worked out, a program to effectively implement the nation's environmental laws in small communities which do not have the capability to comply in the time periods established by law is essential. Assistance not enforcement is the key to compliance for small communities.

AWWA thanks the Subcommittee for this opportunity to present our views on the reauthorization of the Clean Water Act. Clean water is essential to the nation's public water supply and AWWA supports the efforts of the Subcommittee to achieve that goal. We are continuing to develop and investigate issues pertaining to the Clean Water Act and would be pleased to provide the subcommittee updated information on these issues. We welcome the opportunity to continue to work with the Subcommittee to develop appropriate legislative language on the issues and concerns that we have raised, as well as others.

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This concludes the AWWA statement on the reauthorization of the Clean Water Act.

Thank you for this opportunity to present our views. I would be happy to address any questions or comments that you may have.



**TESTIMONY**

**OF**

**ROBERT G. SZABO**

**THE NATIONAL WETLANDS COALITION**

**BEFORE THE**

**HOUSE PUBLIC WORKS AND TRANSPORTATION COMMITTEE**

**SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT**

**REAUTHORIZATION OF THE CLEAN WATER ACT**

**MAY 11, 1993**

Mr. Chairman and Members of the Subcommittee, thank you for providing The National Wetlands Coalition the opportunity to testify before you today. My name is Robert G. Szabo. I am a member of the law firm, Van Ness, Feldman and Curtis, and serve as Counsel to The National Wetlands Coalition. I am testifying today in place of our chairman, H. Leighton Steward, who is also President, Chairman and Chief Executive Officer of the Louisiana Land and Exploration Company. Mr. Steward had a previous commitment that prevented his appearance before you today.

The National Wetlands Coalition is a broad-based group of entities that engage in activities that are subject to the Section 404 permitting program. The Coalition was formed for the single purpose of participating constructively in the national debate over Federal wetlands regulatory policy. The Coalition is a membership organization that was formed on September 1, 1989 and is governed by a Board of Directors. A list of Coalition members and the Board of Directors is attached.

The members of the Coalition are very pleased with the recent statements of the leaders of this Committee that the Committee will address Federal wetlands regulatory policy during its development of Clean Water Act reauthorization legislation. During floor debate of the Department of the Environment Act on May 4th, Senator Max Baucus, Chairman of the Senate Energy and Natural Resources Committee, made the same commitment. Coalition members are pleased that the Congress is prepared to debate this important environmental and land use program for the first time since 1977.

The Coalition is also very supportive of another recent development that may provide an opportunity for private sector entities that have often been at odds over this issue to work together toward consensus positions on at least some aspects of this ongoing debate. On February 19, 1993, twenty House Democrats wrote President

Clinton requesting a "summit" on wetlands policy. A copy of this letter is attached. On April 28, 1993, seven Democratic Senators representing states that are part of the Lower Mississippi Delta Development Commission wrote President Clinton to request that he establish a task force of his cabinet to work with the Senators and others to develop consensus wetlands regulatory policies for inclusion in the Clean Water Act reauthorization legislation this Congress. A copy of the letter is attached.

As Governor of Arkansas, President Clinton chaired the Commission, which filed a report with Congress in May, 1990 recommending certain modifications of Federal wetlands regulatory policy. The relevant portions of the report of the Lower Mississippi Delta Development Commission are attached. On May 4th, during Senate floor debate, Senator John Breaux of Louisiana announced that the Administration had committed to establish the requested task force.

Mr. Chairman, The National Wetlands Coalition supports a workable and effective Federal wetlands regulatory program. Coalition members support the national goal of increased conservation and better management of our nation's wetlands. We are convinced that the goal of conserving and enhancing our nation's wetlands resources can be best achieved by a Federal regulatory policy that enlists the private sector in its implementation and recognizes the fundamental reality that 75% of the nation's wetlands are not in public ownership. The statement of principles that has guided the Coalition since shortly after its inception is attached.

The Coalition is prepared to participate in any reasonable process that is established by this Committee, the Administration or the Senate Environment and Public Works Committee for the purpose of assisting the Congress and the Administration to

develop, for enactment in the Clean Water Act reauthorization legislation, a reasonable and workable Federal wetlands regulatory process.

**THE CURRENT WETLANDS POLICY DEBATE:**

Mr. Chairman, the Section 404 regulatory policy has been controversial since several court decisions required the Corps of Engineers to regulate activities taking place beyond the "navigable waters of the United States," that is, in wetlands. The current continuing national policy debate was precipitated by three policy initiatives of 1989 and 1990, none of which were the product of Congressional action and none of which were preceded by public notice and an opportunity for public comment.

The first event was President Bush's stated commitment early in his Presidency to the national goal of "no overall net loss of wetlands". In fact, the Coalition was formed to participate in the anticipated Congressional debate over the specific policies that would be necessary to achieve that goal. This goal has never been incorporated by the Congress into the Section 404 program. The Coalition supports the goal of "no overall net loss of wetlands" so long as that goal is expressed in terms of the functions and values of wetlands and not acreage, the latter of which the Coalition believes to be unattainable. As President Clinton has stated, the no net loss policy should not turn wetlands protection into a "game of arithmetic." A strict acre-by-acre approach to no net loss is an ineffective measure of progress toward the real goal of conservation of higher value wetlands and the long-term restoration of the nation's wetlands resource base.

The second event was the issuance in March, 1989 of the Federal Manual for Identifying and Delineating Wetlands, which was developed without public input by the Environmental Protection Agency, the United States Army Corps of Engineers, the Soil

Conservation Service and the United States Fish and Wildlife Service. This manual became extremely controversial, at least in its implementation, as huge acreage of "dry" wetlands became subject to Federal regulatory jurisdiction. In August, 1991, the Bush Administration, through the Environmental Protection Agency, issued a new proposed manual in a rulemaking process. That manual was immediately criticized as defining wetlands too narrowly. That rulemaking is still pending. Today, both the EPA and the Corps of Engineers, pursuant to the direction of Congress through the Energy and Water Development Appropriations legislation, are using the 1987 guidelines developed by the Corps of Engineers to delineate wetlands.

The importance of the third event is not often noted, but in many respects this action has created the most difficulty with the current Federal wetlands regulatory program, including the conflict over the "taking" of private property. On February 7, 1990, the Environmental Protection Agency and the Corps of Engineers, again without Congressional action or public notice and opportunity for comment, entered into a Memorandum of Agreement regarding mitigation policy. That memorandum established "sequencing", a concept contained in the Section 404(b)(1) guidelines of the Environmental Protection Agency, as the methodology to be applied by the Corps of Engineers when determining whether a Section 404 permit should be issued. In their recent mitigation Memorandum of Agreement, EPA and the Corps have taken the view that "avoidance", the first step in the sequencing methodology, is the dominant consideration in the methodology. The new emphasis on "avoidance" makes it impossible for the Corps of Engineers to use the "public interest test" in the Corps' regulations that

emphasizes "balance" in determining whether and under what conditions to issue a permit.

The net result of these three events is a Federal regulatory program that now applies to much more land than ever before, most of it privately owned and much of it appearing to be "dry." Accompanying this vast expanse of jurisdiction is a much more rigid permitting methodology that substantially decreases the chances of obtaining a Section 404 permit in most circumstances. All of this has occurred, of course, without any vote by the elected officials of our nation and brings us to where we are today.

**THE NATIONAL WETLANDS COALITION**  
**SUPPORTS H.R.1330 AND OPPOSES H.R.350:**

Mr. Chairman, The National Wetlands Coalition recommends that the Congress transform the current Section 404 regulatory program from a rigid program focusing on "avoidance" to a more flexible program that limits "avoidance" to the highest value wetlands and enlists private landowners and land users in the effort to conserve and enhance our nation's inventory of wetlands functions and values. The members of the Coalition support H.R.1330, the Comprehensive Wetlands Conservation and Management Act of 1993, as the best approach to a workable and effective Federal wetlands regulatory program that applies primarily to privately owned land.

The National Wetlands Coalition opposes H.R. 350, the Wetlands Reform Act of 1993, as further complicating the Federal wetlands program by enhancing substantially the role of a third agency in the permitting process, the United States Fish and Wildlife Service, and diminishing the role of general permits, which have been of major importance to the implementation of this nationwide regulatory program. H.R. 350 also

is overly broad in its expansion of the activities that would require permitting under Section 404. The current exemptions from the Section 404 program and the authority to use general permits to implement the program were added by Congress in 1977 when the program's application to wetlands was in serious danger of being withdrawn. The Coalition believes the continuation of the current exemptions and the current general permits is critical.

**RECOMMENDED REFORMS OF THE SECTION 404 PERMITTING PROGRAM:**

The positions of The National Wetlands Coalition on several specific elements of the Section 404 regulatory program are as follows:

**THE DEFINITION OF WETLANDS:**

The definition of wetlands establishes the jurisdiction of the Section 404 program and, thus, is of critical importance. Because of its regulatory implications, the judgment of what should and should not be considered to be "wetlands" meriting regulation by the Federal government is a judgment that mixes science and policy. Congress has never made a policy determination regarding the extent of the land that is to be subject to the Section 404 regulatory program.

The Coalition believes that the final definition of wetlands adopted by the Congress must meet two criteria. First, it must cover valuable functioning wetlands, particularly those that preserve habitat. High value wetlands that appear on the covers of magazines will be easy to recognize. The more difficult task will be regulating marginal wetlands, primarily because most are privately owned. Congress' task will be to determine which wetlands are of sufficient environmental function and value to require regulation under what is in effect a federal land use permitting program. Second, the

definition must be fair to landowners; it must be understandable and must provide some element of notice to landowners and land users. When the 1989 manual defined wetlands as those hydric soil lands with hydrophytic vegetation and a water table that came to within 18" of the surface for seven days during the growing season, many landowners were not aware that their land was subject to Federal regulation. We support the concept in H.R. 1330 that wetlands should have water on the surface or be saturated to the surface for some reasonable portion of the year in order to notify landowners, land buyers and land users that the land in question might be a regulated wetland.

**ACTIVITIES TO BE REGULATED:**

Today, Section 404 requires a permit only for the discharge of "dredged or fill material" into a wetland. Permits are not required for draining, channelizing or excavating wetlands. The Coalition recommends, as did the report of the Lower Mississippi River Delta Development Commission, that Section 404 be expanded to apply to "draining, channelizing or excavating" a wetland. The Coalition does not support the much broader expansion of activities that is included in H.R.350. The Coalition does not support the broader definition because it is written so loosely as to apply to any "other alteration" of wetlands. The concern of the Coalition is that any "other alteration" could interfere with ordinary maintenance activities or recreational use, and could cause great confusion, as well as placing unlimited discretion in the hands of the regulators. The Coalition may support the regulation of other specifically defined activities, if the need for inclusion can be shown.

**CLASSIFICATION OF WETLANDS:**

The Coalition believes that one of the biggest shortcomings of the Section 404 permitting program today is that the program applies to all wetlands equally. The truth, however, is that all wetlands are not of equal value. Therefore, the Coalition recommends that wetlands be classified into different categories for different levels of regulatory protection. The Lower Mississippi Delta Development Commission report refers to the need to "differentiate the quality of wetlands" and consider "relative wetlands values."

H.R. 1330 recommends three categories of wetlands, with the highest category receiving stricter protection than current law: a middle category requires 404 permits to be obtained by following the "public interest" methodology instead of "sequencing." We believe that most areas (other than high value areas with obvious wetlands functions) that might be subject to significant development will fall into this second category. A third category will include lands that "serve limited wetlands functions," and therefore by definition would not serve significant wetlands functions and values. Further, the bill provides for monitoring of these lower value wetlands. If significant impacts are found through monitoring, a basis will be laid for possible future federal regulation. Others have recommended applying the "sequencing" methodology to only the highest valued wetlands and the traditional "public interest" test for moderate valued wetlands.

Other categorization systems are available and used by the states. The Lower Mississippi Delta Development Commission report recommends differentiating among wetlands to avoid placing marginal and pristine wetlands in identical protection categories. Regardless of the approach taken, the fundamental principle is that the

Section 404 permitting program should be modified to adjust the rigidity of the regulatory program to the level of functions and values present in the wetlands in question.

#### **ENHANCED ROLE FOR STATES AND LOCAL GOVERNMENTS:**

When the Federal Water Pollution Control Act was enacted in 1972, Congress directed that the Section 404 program be administered by the states under the supervision of the Federal agencies. To date, only one state, Michigan, has received the delegation of the Section 404 program.

The Coalition recommends enhancing the role of the states in the Section 404 program, whether through delegation or other methods. Regional diversity of wetlands requires flexibility in the implementation of the program. States are in an excellent position to implement the program to maximize wetlands functions and values.

#### **REGULATORY REFORM**

##### **SINGLE AGENCY PERMITTING:**

One of the greatest recurring complaints about the Section 404 permitting program is the number of Federal agencies involved in the process. This was the theme of bipartisan complaints during Senate consideration of the Department of the Environment Act on May 4th. Unlike any other Federal program, one agency, the EPA, can veto the decision to issue a permit that is made by a second agency, the Corps of Engineers.

The Coalition recommends that Congress designate only one agency to make the determinations required under the Section 404 program. The Coalition recommends the

Corps of Engineers for this role, primarily due to the Corps' experience with this program and the number of field personnel stationed around the country with the Corps.

**PROCEDURE FOR OBTAINING PROMPT DELINEATION DECISIONS AND A PROCESS FOR APPEALING AN ADVERSE DELINEATION DECISION:**

Undoubtedly the Members of this Committee have received numerous complaints from their constituents regarding the amount of time that is required to receive a wetlands delineation decision. The Congress should ensure that delineation decisions are available within a very short period of time, perhaps 30 days. Moreover, under the current program, there is no method for appealing an adverse delineation decision. The only method of appeal available today is for the landowner to apply for a Section 404 permit, whether or not the landowner intends to undertake the activity requiring the permit. If the permit is denied, then the applicant can appeal the permit denial, which can include issues relating to the delineation of the wetland.

A straightforward method for appealing an adverse delineation decision should be included in the program by the Congress.

**TIMELY DECISIONS:**

Another general problem relates to the time required to obtain a Section 404 permit. If any concerns are raised regarding the proposed permit, the process becomes endless. The Committee should ensure that the permitting system is streamlined and that an opportunity for a low-cost and prompt appeal is provided when permits are denied and so heavily conditioned as to be unusable.

**MAPPING AND PUBLIC NOTICE:**

In general, the Corps and the EPA must find better methods for educating the public, including the legal profession practicing in wetlands areas around the country, about the Section 404 program. More public notice of wetlands decisions should be provided.

While the Section 404 program is, in some respects, a Federal zoning program, there is no mapping of wetlands in specific areas that notifies landowners, prospective land buyers or land developers regarding which land is a Federal wetland subject to the jurisdiction of the Section 404 program. Perhaps wetlands maps should be posted in every county or parish courthouse where deeds to property are recorded.

**MITIGATION BANKING AND COMPENSATORY MITIGATION:**

The Coalition strongly supports the greater use in the Section 404 permitting program of the concept of mitigation banking and compensatory mitigation as the basis for resolution of the current wetlands policy dilemma. Wetlands preservation and enhancement is a national goal; most wetlands are located on private land; and there is a need for continued economic growth and development on private land including, in some instances, land that is considered to be wetlands for purposes of the Section 404 program.

To maintain the current strict "avoidance" concept as it has been developed under the "sequencing" methodology invites continued complaints regarding the "taking" of private property. However, a more flexible program under which landowners and land users are allowed to alter some wetlands if they restore wetlands functions and values elsewhere to the environment avoids many of the takings concerns. Mitigation banks

that preserve and enhance wetlands can be used to offset the wetlands functions and values that might have been altered by an economic activity. Moreover, mitigation banks provide a method for preserving and enhancing larger areas of wetlands, rather than the very small mitigation plots that are often required under today's system.

The Coalition recommends that Congress direct the Corps and the EPA to make greater use of the mitigation banking concept in implementing the Section 404 program.

#### **THE GENERAL PERMIT PROGRAM**

Most of those involved in federal wetlands policy agree that the general permit program is the one facet of the existing program that is operating relatively efficiently. Under the general permit program, in place of individual permits, the Corps may issue five-year permits on a nationwide, regional, or state-wide basis for categories of activities that, by definition, have minimal adverse environmental impact, either individually or cumulatively. General permits involve significantly less paperwork and delay than individual permits. The Coalition is concerned that the provisions of H.R. 350, whether intended or not, could undermine the only device that has been effective in regulating vast amounts of land and land use activities. H.R. 350 require EPA approval of every general permit, and would require review of every general permit after only two years. Rather than constricting this important program, Congress should be looking for ways to relieve regulatory burdens and enhance the role of the states by expanding the general permit program.

**COMPENSATION FOR PRIVATE PROPERTY, THE USE  
OF WHICH HAS BEEN SUBSTANTIALLY DIMINISHED  
BY THE OPERATION OF THE SECTION 404 PROGRAM**

The current wetlands policy debate has brought into focus the difficult issue of fairness for landowners when the use of their private property has been completely or substantially restricted due to the operation of a Federal regulatory program. This issue has implications for the Federal budget and for private landowners, but also for economic development, most of which occurs on private land, and for the local tax base, a major portion of which is collected from property taxes. As long as the Federal wetlands program applies primarily to privately owned lands and focuses on the "avoidance" of activities on privately owned wetlands, the "private property rights" issue will remain intense.

The issue of compensation for landowners is more than just a constitutional issue. In Lucas v. South Carolina Coastal Commission, the United States Supreme Court affirmed that compensation is due a landowner when a regulatory program, adopted after land has been purchased, restricts all of the economic use of that land. The Supreme Court has not yet determined clearly, however, the extent to which the economic use of property must be diminished before a "taking" occurs under the Fifth Amendment to the Constitution.

The broader "takings" issue raises two issues. First, how far will Congress allow a Federal regulatory program to diminish the use of private property before compensating the landowner for that lost value? Again, the issue is difficult and the implications are great. However, the fact remains that a fundamental precept of our form of government is that actions for the public good are funded by the public through the treasuries of the

Federal, state and local governments. It is simply not fair to place the total cost of wetlands preservation on individual landowners or even on local communities that may be located in or near wetlands areas.

Second, what mechanism will Congress establish for landowners to seek compensation from the Federal government? The suggestion has been made by some that no mechanism is needed because landowners who believe that their land has been "taken" can file claims against the United States government in the United States Claims Court. In fact, such claims are on the rise. Over 150 "takings" claims are pending in the United States Claims Court. Four plaintiffs have been successful in obtaining Claims Court judgments granting compensation for "takings" that occurred due to the denial of a Section 404 permit. However, the fact also remains that most Americans cannot afford to retain an attorney to fight the Federal government in the Claims Court.

The Coalition is very supportive of the manner in which H.R. 1330 addresses the issue of "takings". First, H.R.1330 attempts to make the Section 404 program more flexible, including a greater use of the concept of mitigation banking, in order to avoid the "takings" conflict. Second, H.R.1330 provides a special compensation mechanism for Type A wetlands, those wetlands under the classification scheme in H.R. 1330, where most economic activities are presumed to be impermissible. A landowner whose land is classified as a Type A wetland would have three options: accept the classification and the resulting restrictions on the land use; seek a permit and, if denied, file a "takings" claim in the United States Claims Court; and pursue the mechanism in the bill which establishes a negotiation between the Federal government and the landowner. In this negotiation, the Federal government could offer, and the landowner could accept, surplus

Federal land, tax credits or other items of value, including cash. If the negotiation is unsuccessful, the landowner would then have access to the Claims Court to determine the value of the land "taken" and to obtain a money judgment against the Federal government. The consequence of this payment is that title to the high value wetlands passes to the U.S. government. In administering the public trust, the government may restrict the use of the wetlands as it would any other land acquired for conservation purposes.

H.R. 1330 does not, as some have alleged, attempt to amend the Constitution and does not provide compensation for any wetlands other than Type A wetlands.

The Members of the Coalition believe strongly that the Congress must address the important issue of landowner rights. The Coalition believes that the Federal wetlands regulatory program should be designed and implemented to avoid "takings" and extra-judicial mechanisms should be developed for dealing with this important issue in specific fact situations.

**CONCLUSION:**

Mr. Chairman and Members of the Committee, we appreciate the opportunity to present to you the views of the Coalition. We encourage you to stand fast in your commitment to debate the current wetlands policy and look forward to working with the Members of the Committee as you develop a workable and effective Federal wetlands regulatory program.

## THE NATIONAL WETLANDS COALITION

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**Congress of the United States****House of Representatives****Washington, DC 20515****February 19, 1993**

President Bill Clinton  
The White House  
1600 Pennsylvania Avenue N.W.  
Washington, D.C.

Dear Mr. President:

Over the last four years the undersigned have followed closely the controversial and frequently changing policies on wetlands proposed by the Bush Administration. We have heard from our constituents that the current wetlands regulatory program has caused them severe hardships and has greatly diminished the value of their property. Our local public officials have described their difficulties in attempting to meet important infrastructure needs and the loss of taxes related to wetlands regulatory requirements.

A number of serious errors have been made in the implementation of this program. Those errors include:

1. Failure to adequately support restoration of existing wetlands through adequate private sector incentives and public funding.
2. Adopting broad wetlands definitions and regulatory procedures without public input and comment.
3. Frequently changing policies and procedures so that it is difficult and in some cases impossible to meet the requirements of the regulatory program.
4. An inflexible and dogmatic approach to the issuance of permits for activities in wetlands.
5. Failure to pay due respect to the Constitutional guarantee that private property shall not be taken without the payment of just compensation.
6. Unduely burdensome, costly, and lengthy permitting procedures with which many low and middle income constituents cannot comply.
7. Failure to meet the basic requirements of due process by allowing appeals of administrative decisions restricting property uses.
8. Failure to consult with local and state governments in making wetlands determinations which impact local economies, particularly in those areas with disproportionate wetland acreages.

We are hopeful that your administration will bring together in a spirit of cooperation all of the diverse interests associated with this issue. We believe that a summit, similar to your economic summit, could debate these

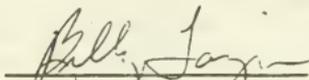
issues and propose sound measures for accomplishing the goals of wetlands protection while respecting the Constitutional rights of property owners.

We also urge you to refrain from further rulemaking on this issue pending this wetlands summit to allow your administration to propose a well thoughtout and comprehensive wetlands proposal.

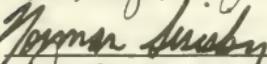
If this issue is not adequately addressed by your administration, the next few years will see a flood of lawsuits seeking compensation for property values taken and will result not only in the loss of public acceptance of this program, but also the loss to the public treasury of many millions of dollars.

As fellow Democrats we wish to work with you to organize and promote a national ongoing dialogue on wetlands. We look forward to working with you to address this important issue.

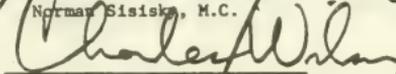
Best Wishes,



Billy Tauzin, M.C.



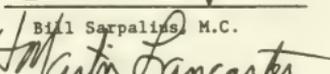
Norman Sisisky, M.C.



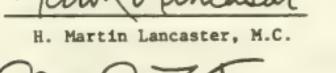
Charles Wilson, M.C.



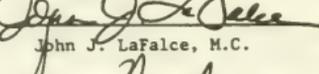
Bill Sarpalins, M.C.



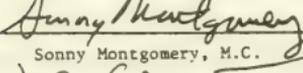
H. Martin Lancaster, M.C.



John J. LaFalce, M.C.



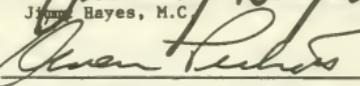
Sonny Montgomery, M.C.



Bob Clement, M.C.



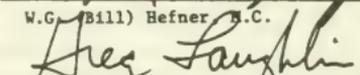
Jimmy Hayes, M.C.



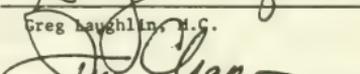
Owen Pickett, M.C.



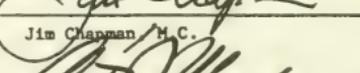
W.G. (Bill) Hefner, M.C.



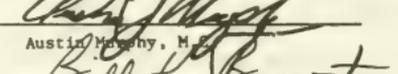
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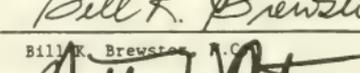
Jim Chapman, M.C.



Austin Murphy, M.C.

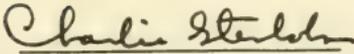


Bill K. Brewster, M.C.

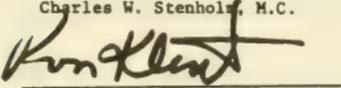


William Orton, M.C.

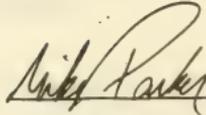
President Bill Clinton  
The White House  
February 19, 1993



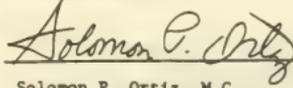
Charles W. Stenholm, M.C.



Ron Klink, M.C.



Mike Parker, M.C.



Solomon P. Ortiz, M.C.

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**United States Senate**

WASHINGTON, DC 20510

April 28, 1993

President Bill Clinton  
The White House  
Washington, D.C. 20500

Dear Mr. President:

Among the most controversial and difficult unresolved issues currently facing us is the future of Federal wetlands policy. Last year, both the Congress and the Administration were unable to break the political gridlock that continues to threaten the effectiveness of and public support for the wetlands regulatory program. We now have the opportunity to resolve this issue fairly as we move forward with reauthorization of the Clean Water Act. We ask you to join us in an effort to seek a reasonable compromise on this important issue.

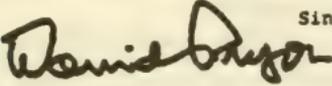
You may remember that the Lower Mississippi River Delta Development Commission, which you chaired, filed a report with President Bush and the Congress in May of 1990 that found that the nation's wetlands policy was the source of "significant problems for agriculture, aquaculture and commercial and industrial development" in the Delta Region. The Commission's report contained realistic and progressive recommendations regarding improvements to Federal wetlands policy. These recommendations included a clear and fair jurisdictional definition, recognition of the differences in functions and values of wetlands, incentives for landowner conservation, reduction of regulatory duplication, regulation of activities that drain wetlands and expanding the role of the states in the Federal regulatory program.

We ask that you establish a working group of all appropriate members of your Cabinet, including the Administrator of the Environmental Protection Agency, and the Secretaries of the Interior, Agriculture, Defense, Transportation, Energy and Housing and Urban Development, to work with us, other Congressional leaders and the public during Congressional consideration of the Clean Water Act to forge a consensus on this difficult policy issue.

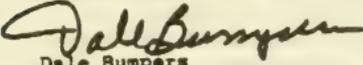
President Bill Clinton  
Page 2

We look forward to working constructively with you on this vital environmental issue which is of such great importance not only to our region but to our entire nation.

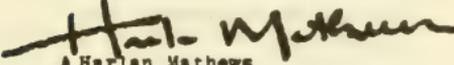
Sincerely,



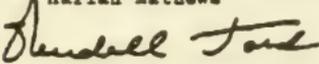
David Pryor



Dale Bumpers



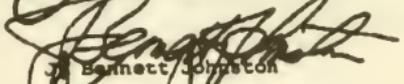
Harlan Mathews



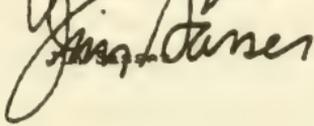
Wendell Ford



John Breaux



J. Bennett Johnston



Jim Saxton

# **FINAL REPORT THE DELTA INITIATIVES MAY 14, 1990**

## **LOWER MISSISSIPPI DELTA DEVELOPMENT COMMISSION MEMBERS**

### **State Commissioners**

- Chairman Bill Clinton, Governor of Arkansas
- Vice Chairman Ray Mabus, Governor of Mississippi
- Secretary Ed Jones, Former U.S. Congressman
- Charlie Kruse, Missouri Department of Agriculture
- Buddy Roemer, Governor of Louisiana
- Lee Troutwine, Kentucky Department of  
Local Government
- Dr. Rhonda Vinson, Department of Economic  
Development, Southern Illinois University  
at Carbondale

### **Presidential Appointees**

- Webb Franklin, Former U.S. Congressman
- John Shepherd, Attorney at Law

**Lower Mississippi Delta Development Commission**

May 14, 1990

The President  
The White House  
Washington, D. C. 20500

Dear Mr. President:

This is the final report to you and the Congress of the United States of America on the work of the Lower Mississippi Delta Development Commission. It is more than just another government report to be added to countless shelves of government studies that have gone before.

This is a Handbook for Action -- one that can turn the Delta and its 8.3 million people into full partners in America's exciting future, full participants in the changing global economy.

The Lower Mississippi Delta Development Commission was established under Public Law 100-460 in October 1988 through legislation introduced by a bi-partisan group of senators and representatives from the seven states making up the Lower Mississippi Delta region, as well as Congressmen from other parts of the nation. The Lower Mississippi Delta area is comprised of 219 counties in Arkansas, Louisiana, Mississippi, Missouri, Illinois, Tennessee and Kentucky. Together they form the poorest region of the United States.

The Commission was given this mission: to study and make recommendations regarding economic needs, problems, and opportunities in the Lower Mississippi Delta region, and to develop a ten-year regional economic development plan.

To begin its work, the Commission had to collect all the information, opinions and ideas available in the region. And that is exactly what has been done. We have blanketed the Delta, seeking input from many thousands of people who attended public hearings, spoke to us, gave us written testimony or participated through providing research and statistical information. We have reviewed a mountain of material and considered every single, specific suggestion made by the citizens of the Delta -- and they had many ideas on how to improve the overall quality of life for all the people of the region.

In October 1989, we issued an interim report entitled "The Body of the Nation", which outlined the problems and opportunities of the Delta, the vast human and natural resources and many impressive efforts now underway to move our region forward.

We agreed that the Delta was an enormous, untapped resource for America, that it can and should be saved. We agreed that our goal should be nothing less than full partnership for the Delta: rates of employment and income at or better than the national average.

The President  
May 14, 1990  
Page 2

Now, in this Final Report, all of the information, all of the opinions and ideas we have collected have been put together into an ambitious, aggressive plan for the development of the region.

It is a handbook for action that anybody can pick up -- a congressman, a governor, a legislator, a chamber of commerce president, a mayor, a teacher, or a student -- and see what he or she can do to help.

We also believe the plan comes just in time for the Delta and its people. The 1990s have brought us an entirely new world marked by the triumph of democracy and market economies. This new world provides economic opportunities for Americans prepared to compete in it, and enormous challenges for those who are not. The people of the Delta cannot become full partners in America's future without an honest assessment of where we are in the emerging global economy and what we have to do to increase the capacity of all our people to succeed in it. That is what we have tried to do in our interim report of October 1989 and in this final report.

If we do not implement a single recommendation made in this report, a lot of Americans who live in the Delta are going to do fine in the 1990s: those who are well-educated, on the cutting edge of change, and able to take advantage of the emerging global economy. But millions of people will be left behind, and the region as a whole, including its successful residents, will not achieve its full potential.

We call on you, our Congress, our state and local leaders, and our citizens to assume responsibility for the Delta's future.

Being in the vanguard of change need not be a distinction limited to the freedom-hungry citizens of Eastern Europe or Poland or the aggressive business people of Singapore or Korea. The people of the Delta belong in that vanguard. They want to be there, and they can be if each of us will do our part.

Respectfully,



Bill Clinton  
Chairman

## Natural Resources

**ISSUE:** Wetlands ( Freshwater)

**TEN YEAR GOAL:** All remaining high quality wetlands will be protected without preventing economic development by the year 2001.

**SITUATION:** The national wetlands policy has caused significant problems for agriculture, aquaculture and commercial, and industrial development. More than 21 million acres of Lower Mississippi River Delta land is designated as wetlands. The "Joint Federal Manual for Identifying and Deleting Jurisdictional Wetlands" increased the river delta lands, described as wetlands in the region from a former 15-18% of the land to approximately 70%-80%. The Manual is used for Section 404 permits and the Food Security Act regulation. Serious questions have been raised concerning the exact intent of Congress and inadequate public access to the Manual.

Current definitions do not adequately differentiate the quality of wetlands. For example, a pristine cypress swamp and a commercial loblolly pine plantation may be placed in the same wetlands classification. Relative wetlands values are not considered. All these problems place individuals and industries in a state of confusion.

Landowners and planners are not adequately informed of the new wetlands policies, and farmers are not accustomed to obtaining permits to improve land that has a long history of cultivation.

Current interpretations of the national wetlands policy have placed major limitations on the Delta's economy because commercial and industrial development is being impaired.

Expansion of the successful catfish, crayfish, and baitfish industries is severely limited.

Construction of surface water storage systems to preserve critical ground water supplies and increase economic returns through irrigation from agriculture also has been hampered.

"Determination of mitigation" requirements showing the effects of construction are not being made early enough in the permitting process to allow for reasonable financial planning. With up to 80% of river delta land classified as wetlands, large-scale mitigation may not be practical. Current interpretations of national policy even require land users to create new wetlands when croplands are improved or converted to commercial, industrial or aquaculture uses.

**RECOMMENDATIONS:**

- **All levels of government and the private sector** should actively support preservation of high quality wetlands. The North American Waterfowl Management Plan is one example of active support for this recommendation.
- **States** should establish an area-wide system of "mitigation banking," for land converted from wetlands. (See glossary.)
- **Congress** should eliminate the "dredge removal" loophole in Section 404 of the Clean Water Act of 1972 (CWA 72). Present rules allow wetlands to be drained if the removed material is hauled away and deposited in a non-wetlands area.
- **Congress** should establish a wetlands protection program with incentives for landowners to protect and establish high quality wetlands; the program should put emphasis on the conservation and re-establishment of bottomland hardwoods.
- **Congress** should exempt pre-Food Security Act (FSA) croplands from wetlands regulations of Section 404 of the CWA 72 and the Food Security Act of 1985.
- **Congress** should direct appropriate federal agencies to develop procedures that clearly identify mitigation requirements.
- **Congress** should direct appropriate federal agencies to establish minimum-sized wetlands for regulation.
- **Congress** should assign the responsibility for identification and maintenance of a wetlands inventory to one agency, and require consultation with other affected agencies.

## Natural Resources

**ISSUE:** Coastal Marshlands, Wetlands

**TEN YEAR GOAL:** Establish an equilibrium in the loss of coastal marshes and wetlands by the year 2001.

**SITUATION:** Louisiana contains 40% of United States coastal marshes and 80% of the nation's coastal marsh loss is occurring in the state. Current loss is estimated to be thirty-five square miles annually. This is an urgent crisis and should be given top priority for resolution.

Louisiana wetlands serve as incubators for 90% of the commercial fish and 42% of the recreational fish harvested in the Gulf of Mexico. The Louisiana commercial seafood industry economic impact is estimated to be \$2.3 billion.

Coastal marshlands and wetlands are valuable habitats for wildlife. Louisiana wetlands provide wintering habitat for 66% of the ducks and geese using the Mississippi flyway. Wetlands provide essential habitat for many non-game species of wildlife. National flood control and navigation policies, although designed to foster national economic development, have caused in large part the loss of lower Mississippi Valley marshlands and wetlands.

### RECOMMENDATIONS:

- **Congress** should require the U.S. Army Corps of Engineers (CoE) to create marshes with dredged material from Corps-maintained channels in the Lower Mississippi Delta.
- **Congress** and **states** should develop an approach for meeting the goal of an immediate no net loss on permitted wetland activities.
- **Congress** should require stabilization of banks along river and stream channels maintained by the CoE.
- **Congress** and **states** should direct appropriate agencies to accelerate planning and construction of approximately 20 freshwater and sediment diversions designed to replicate natural action of the river to restore vegetated marshlands and wetlands.
- **Congress** and **states** should direct appropriate agencies to accelerate installation of non-point source discharges into coastal wetlands to offset salinity intrusion and improve quality of water flowing into oyster reefs and fishing grounds.

## Natural Resources

**ISSUE:** Natural Resource Conservation and Development (RC&D)

**TEN YEAR GOAL:** By the year 2001, establish a model for effective rural revitalization and reduction of soil erosion rates consistent with USDA Soil Conservation Service tolerance levels.

**SITUATION:** The need to revitalize the rural Delta has been firmly established through state testimonies, conference reports, and research documents. Resource Conservation and Development Councils are organized and active in 164 of the 219 Delta counties, parishes. Consistent and adequate rural development assistance is not currently provided to some counties in the region.

Soil erosion continues to plague many Delta locations. Areas of Southern Illinois, West Kentucky, West Tennessee and Northern Mississippi suffer from excessive soil loss. The Conservation Title of the 1985 Food Security Act (FSA) has helped address this problem by requiring a conservation plan for highly erosive cropland which must be implemented by 1995. Shortages of technical assistance and cost-share funds for implementation of these plans contribute to degradation of this natural resource and inhibits farm profitability.

**RECOMMENDATION:**

- **Congress** should authorize and fund the Resource Conservation and Development (RC&D) program of the USDA to allow for expansion of, or approval of new RC&D Project Areas which include the remainder of the Delta Commission counties and parishes.
- **State governments** should develop a model "rural economic development" structure for each county and parish.
- **Congress** should increase USDA funding targeted toward technical assistance and cost-sharing to assure completion of conservation plans for highly erosive cropland.
- **Congress** should maintain conservation compliance and sodbuster provisions in the conservation title of the new 1990 Farm Bill.
- **State governments** should provide supplemental technical assistance and cost-share funds to assist farmers in complying with the 1985 Food Security Act requirements.
- **States and local organizations** should develop a pool of resource persons, both paid and volunteer, to assist farmers with technical layout and construction of conservation practices with EARTH TEAM, VISTA and ACTION being lead players in supporting volunteer involvement.

## Lower Mississippi Delta Development Commission Members and Staff

### State Commissioners

Chairman Bill Clinton, Governor of Arkansas  
 Vice Chairman Ray Mabus, Governor of Mississippi  
 Secretary Ed Jones, Former U.S. Congressman, Tennessee  
 Charles Kruse, Missouri Department of Agriculture  
 Buddy Roemer, Governor of Louisiana  
 Lee Trourwine, Kentucky Department of Local Government  
 Dr. Rhonda Vinson, Department of Economic Development,  
 Southern Illinois University at Carbondale

### Presidential Appointees

Webb Franklin, Former U.S. Congressman  
 John Shepherd, Attorney at Law

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 Carole Hemminghaus, Missouri Department of Agriculture  
 Cornelius Lewis, Governor's Office, Louisiana  
 Mike McGuire, Tennessee Department of Economic Development  
 Bob Nash, Arkansas Development Finance Authority  
 Anne Sapp, Governor's Office, Mississippi  
 David Morris, Illinois Department of Commerce and Community Affairs

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 Elizabeth Brown  
 Carol Coletta  
 Carol Rasco  
 Susan Jones and members of the Tourism Steering Committee

**State Advisory Committees**

Arkansas State Advisory	Chairs. Mr. Earnest Cunningham & Mr. Rodney Slater
Illinois State Advisory	Chairs. Dr. Rhonda Vinson & Mr. Dave Morris
Kentucky State Advisory	Chair. Ms. Carol Rogers
Louisiana State Advisory	Chair. Dr. Paul Dunn
Mississippi State Advisory	Chair. Mr. Jimmy Heidel
Missouri State Advisory	Chair. Mr. Charles Kruse
Tennessee State Advisory	Chair. Mr. Mike Sparks

**STATEMENT OF PRINCIPLES  
THE NATIONAL WETLANDS COALITION**

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The National Wetlands Coalition is a geographically and economically diverse group of public and private sector entities that have joined together to participate in the efforts of the Congress and the Administration to establish a comprehensive policy for effective conservation and management of the Nation's wetlands. The National Wetlands Coalition will support the adoption of the specific programs and policies that advance the objectives of wetlands conservation, consistent with the following principles:

1. THE CONGRESS OF THE UNITED STATES AND THE PRESIDENT SHOULD ESTABLISH A COMPREHENSIVE FEDERAL PROGRAM FOR MANAGING THE NATION'S WETLANDS RESOURCE BASE IN A MANNER THAT EFFECTIVELY AND SENSIBLY ACCOMMODATES THE COMPETING, LEGITIMATE DEMANDS FOR CONSERVATION AND USE OF WETLANDS RESOURCES.
2. GIVEN THE NUMBER AND DIVERSITY OF PEOPLE AFFECTED, AND THE ECONOMIC AND ENVIRONMENTAL IMPORTANCE OF THE WETLANDS RESOURCE BASE, A COMPREHENSIVE FEDERAL WETLANDS POLICY SHOULD BE THE PRODUCT OF A NATIONAL CONSENSUS-BUILDING PROCESS.
3. "NO OVERALL NET LOSS OF WETLANDS VALUES" IS AN APPROPRIATE GOAL FOR ACHIEVING THE EFFECTIVE CONSERVATION OF SIGNIFICANT WETLANDS VALUES AND FUNCTIONS. THIS GOAL SHOULD BE PURSUED BY IMPLEMENTATION OF A VARIETY OF THE REGULATORY AND NONREGULATORY PROGRAMS DESIGNED TO: CONSERVE THE HIGHEST VALUE WETLANDS; ENSURE THAT DEVELOPMENT ACTIVITIES IN WETLANDS CONSERVE WETLANDS VALUES AND FUNCTIONS TO THE MAXIMUM EXTENT PRACTICABLE; ELIMINATE OR STREAMLINE PROCEDURES FOR USE OF WETLANDS OF MARGINAL RESOURCE VALUE; AND, PROVIDE INCENTIVES FOR PRIVATE WETLANDS CONSERVATION EFFORTS.
4. PROTECTION OF THE NATION'S HIGH-VALUE WETLANDS, AND RESTORATION OF WETLANDS GENERALLY, WILL REQUIRE AGGRESSIVE NONREGULATORY PROGRAMS INCLUDING PUBLIC ACQUISITION AND INCENTIVES FOR SET-ASIDES AND FOR RESTORATION ACTIVITIES. FEDERAL FUNDING REQUIRED FOR SUCH PROGRAMS SHOULD BE FROM THE BROADEST SOURCES POSSIBLE WITH NO SINGLE INDUSTRY REQUIRED TO BEAR A DISPROPORTIONATE SHARE OF THE COST.
5. SUBSTANTIAL REFORM OF THE SECTION 404 PERMITTING PROCESS IS NECESSARY TO CONSOLIDATE AGENCY RESPONSIBILITY, TO EXPEDITE ROUTINE PERMITTING, TO INCREASE FLEXIBILITY IN THE PROGRAM, AND TO PROVIDE GREATER PREDICTABILITY IN ALL CASES. CRITICAL TO THE ESTABLISHMENT OF A SENSIBLE PERMITTING PROCESS IS THE RECOGNITION THAT ALL WETLANDS ARE NOT OF EQUAL VALUE AND THAT THE LEVEL OF REGULATION AND MITIGATION IMPOSED SHOULD VARY DEPENDING UPON FUNCTIONS AND VALUES OF AFFECTED WETLANDS, DEGREE AND DURATION OF IMPACT, AND THE SURROUNDING LAND USE.



ASSOCIATION OF METROPOLITAN WATER AGENCIES

**ASSOCIATION OF METROPOLITAN WATER AGENCIES**  
***Before the Subcommittee on Water Resources and the Environment***  
***Committee on Public Works and Transportation***  
***U. S. House of Representatives***

***Statement on***  
***Reauthorization of the Clean Water Act***

***May 11, 1993***

***presented by***  
***Buddy Williams, Director***  
***Department of Water and Sewerage Services***  
***Nashville, Tennessee***

***Testimony before the House Subcommittee on Water Resources  
and the Environment  
House Committee on Public Works and Transportation  
on Reauthorization of the Clean Water Act  
May 11, 1993***

Mr. Chairman, Members of the subcommittee, thank you for this opportunity to appear before you this morning to discuss reauthorization of the Clean Water Act. My name is Buddy Williams and I currently serve as director of the Nashville Department of Water and Sewerage Services. I also serve on the Board of Directors of the Association of Metropolitan Water Agencies and I am here on the association's behalf.

The Association of Metropolitan Water Agencies is a non-profit organization comprised of the directors and managers of the nation's large municipal and publicly-owned water supply agencies. Our membership includes cities from Nashville to Cleveland, New York to Los Angeles, Houston to Chicago and Tampa to Seattle. AMWA members provide high quality drinking water to over 80 million people.

The Nashville Department of Water and Sewerage Services provides both waste water and drinking water service to the people of Nashville and Davidson County. The Clean Water Act, traditionally viewed as a statute impacting only the waste water side of my agency, has significant implications for the drinking water side as well. The following statement outlines some of the issues of interest and concern to the drinking water side of my agency as well as to the largest drinking water suppliers around the country represented by AMWA.

Members of the subcommittee, the cost of complying with environmental requirements has steadily increased over the past several years for local communities. EPA in a report titled, "The Cost of a Clean Environment", has projected that by the year 2000, local governmental cost will increase from \$19 billion a year to over \$32 billion (in 1986 dollars) in order to meet new standards for drinking water, waste water treatment and other environmental requirements. Given what we know today about the needs of local communities, and the mandates of the federal government, this figure is an underestimate.

Environmental requirements, whether imposed at the federal or state level, have implications for local communities both in terms of capital requirements and increased user charges. Communities will need additional capital investments to expand and replace or rehabilitate environmental infrastructure including water systems and we will have to increase household user charges to pay for these improvements.

Nashville is currently in the midst of an eleven-year \$740 million capital improvement program, all locally funded, for drinking water, sewer and CSO improvements. Our rate payers have borne the cost through water rate increases of 260% since 1984 and sewer rate increases of 409%.

## **Reauthorization of the Clean Water Act**

The protection of public water supplies, one of the stated objectives of the Clean Water Act, is very important to AMWA's membership and is essential to ensuring that the nation has safe and affordable drinking water for this and future generations. Reauthorization of the Act, a process that has just begun, offers Congress and all interested parties an excellent opportunity to reassess how to achieve water quality that provides for the protection and propagation of fish, shellfish, and wildlife and the protection of drinking water sources.

Increasingly, it is becoming apparent to those at the local level that the traditional end-of-pipe controls for achieving the goals of the Clean Water Act are not enough and that environmental and public health needs make it essential, from an effectiveness and cost perspective, that we begin to address pollution in a comprehensive manner that includes both nonpoint source strategies and prevention efforts.

From the water supplier's perspective, clean, high quality source water is essential and directly related to the cost, types and complexity of treatment processes employed to make the water safe for human consumption. Just as publicly-owned treatment works (POTWs) use technology and chemicals to reduce pollution discharges, public water supply systems use technology and chemicals to create potable water for people to drink. For water suppliers however, particularly those with poor source water, the treatment process employed to reduce or eliminate harmful pollutants can cause other public health concerns.

For example, drinking water suppliers use, and in fact are statutorily required to use, disinfectants to kill harmful microorganisms often introduced into water sources through agricultural and other nonpoint source discharges. There is currently no known disinfectant that does not create by-products that may be potentially carcinogenic. No one would argue against disinfecting drinking water supplies because of the known risks from pathogens, but cleaner source water reduces the need for disinfection and therefore the potential for carcinogenic by-products being created.

The cost to consumers of reducing risks from both pathogens and potential carcinogens will be somewhere between \$6 billion and \$45 billion as currently estimated in the ongoing negotiated rulemaking process on disinfectants and disinfection by-products. This cost, which is for only one of the many drinking water regulations in place or yet to come, will be added to the same consumers' bill that is already experiencing an increase in their water and waste water bill.

## **Watershed Protection and Control of Nonpoint Sources**

With the cost of both drinking water and waste water treatment on the increase, it is essential that Congress give serious consideration to preventing and controlling, what is at this time the largest cause of pollution – nonpoint sources.

Watershed protection and reduction of nonpoint source pollution are essential for meeting the goals of the Clean Water Act and for preserving water sources suitable for drinking water purposes. While it may be possible to address nonpoint source reduction separately from watershed protection approaches, the opposite is not true. A watershed approach, by definition, must consider nonpoint sources of pollution.

AMWA supports the development of comprehensive watershed management strategies. We believe this is a valuable tool for addressing the control of more complex and diverse sources of pollution such as urban and agricultural run-off and which could provide for the development of local or regional strategies that address the most important risks to a particular watershed.

Releases from impoundments can also have a significant impact on water quality. For example, research by our department into water quality in the Cumberland River has demonstrated that the single largest impact is the regulated streamflow. For an impounded river the agency controlling streamflow actually becomes the largest point source discharger. These agencies whether TVA, Corps of Engineers or other agency must be involved in the water quality equation.

During the reauthorization debate, much discussion will center on top-down command and control verses bottom-up approaches to watershed programs. Over the long term, a combination of approaches, as inherent in our understanding of watershed protection, is likely to prove the most effective. From the top-down must come the clear requirement that intended protected uses of the nation's waters be achieved. From the bottom-up must come the realization that those who are part of the problem must be part of the solution; local ownership and commitment is necessary to insure economic and environmental success.

The debate will also focus on regulatory approaches verses voluntary ones based on education, and technical and financial incentives. A balance between the two is likely to prove most effective with an essential ingredient being the commitment of all stakeholders to improving the quality of our water resources. We do believe, however that States should maintain their present central role in the process and that water quality standards provide the common denominator for action. AMWA also believes that a clear expression of performance expectations and a clear role for EPA should those expectations not be met, be included.

Watershed protection is not, and should not, be viewed as a replacement for standards, or as a means of delaying implementation of present requirements, but as an additional tool for meeting water quality objectives. Water quality standards developed to achieve clean water objectives, however, must be based on good science with local communities provided the flexibility to meet those standards using the most appropriate and cost effective means available.

nation's water resources. There have been a variety of water conservation proposals placed before this subcommittee during previous testimony. A common characteristic of the proposals has been a "one size fits all" approach to the subject. The Clean Water Act since its inception has recognized that in water resource issues one size does not necessarily fit all - that the needs and requirements of different regions of the country, specific watersheds, and the states can and do differ. The Act reserves to the states a variety of responsibilities and rights in recognition of these differences.

AMWA urges the subcommittee when considering conservation measures to recognize the significant regional differences in water resource availability, usage requirements, system capabilities, and demographics. These differences combined with local, legal, climatic, source, economic and environmental differences speak strongly for retaining maximum local, state and regional flexibility in determining appropriate conservation measures.

### **Water Quality Monitoring**

Water quality reports are required biennially from each state on all the state's navigable waters. AMWA suggests that Section 305(b), which contains this requirement, be modified to specifically require monitoring of contaminants affecting water quality along with identification and ranking of the sources of contamination. The monitoring data should be of a type and quality determined by EPA to be appropriate for making the analyses, estimates and descriptions of water quality presently required by the statute. A clear picture of the nation's water quality is not possible without such data which can be compared from report to report to identify trends, characterize existing and emerging problems, and provide the public, regulators, and legislators with accurate and usable information.

AMWA further recommends that this effort be coordinated with the U. S. Geological Survey (USGS) National Water Quality Assessment Program through an entity such as that which will replace the Intergovernmental Task Force on Water Quality Monitoring (ITFM). The ITFM is developing an institutional framework for nationwide integrated monitoring to obtain better information on water quality through the coordinated use of present resources. The framework will be directly usable for state water quality monitoring under Section 305(b). It will include data collection methods, data management and information sharing, and assessment and reporting features. Once ITFM has developed the framework, the task force will be replaced by a new national implementation committee.

Members of the subcommittee, I will conclude my testimony today on the CWA reauthorization with a few comments on the establishment of a drinking water State Revolving Loan Fund.

Watershed protection can be a very effective tool for preventing pollution and for reducing the need for costly treatment. Major cities such as Seattle, Portland, Tacoma and New York use watershed protection as a cost effective means of maintaining high quality source water, that meets federal requirements and which allows them to avoid installation of costly treatment. For these few cities alone, billions would be needed to install treatment to replace watershed protection. The Clean Water Act should explicitly recognize the relationship between protection of drinking water sources and programs to promote watershed protection and reduction of nonpoint source pollution.

Nonpoint source control is addressed in a variety of laws and a multitude of agencies. Currently Section 319 of the CWA, the National Estuary Program, the pesticides program under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA), and a variety of Department of Agriculture, Department of Interior, Department of Commerce, and Corps of Engineers programs all touch on some of the aspects of nonpoint source pollution prevention. In total, they represent a vast store of expertise and financial resources, but fall short of an integrated federal approach to this problem.

In general, we believe the subcommittee should consider strengthening the links between federal and state efforts to control nonpoint source pollution. Some of the characteristics of a state program could include: (1) identifying land uses which contribute significantly to degradation of water quality, (2) implementing economically achievable management measures, (3) providing technical assistance to local governments and the public in implementing management measures, (4) providing for public involvement in the program, and (5) establishing mechanisms to improve coordination among state and local agencies and officials responsible for land use programs and permitting, water quality permitting and enforcement, habitat protection, and public health and safety.

Provisions similar to these could provide a strong foundation upon which communities could build to identify and solve local water quality problems in conjunction with local, state, federal, and private sector expertise and resources.

The subcommittee may wish to consider establishing a federal coordinating committee consisting of representatives from EPA, the Department of Agriculture, the Department of Commerce, the Department of Interior, the Corps of Engineers, the States, and other appropriate agencies to insure coordination of existing programs and existing management measures, education and incentive funding sources with nonpoint source efforts.

### **Water Conservation**

AMWA has supported a number of water conservation initiatives including national plumbing products standards and believes that federal, state and local water supply policies should generally encourage the conservation of the

### **Drinking Water State Revolving Loan Fund**

The needs of the drinking water community in this country are tremendous. There currently exists over 200,000 public water supply systems regulated by the federal government. The vast majority of these systems serve fewer than 10,000 people with a great many serving as few as 15 to 25 people.

Any loan program developed to assist communities with drinking water problems, must be based on a clear picture of the problems that exist in order to identify appropriate solutions. We simply can not exacerbate a problem that is already of overwhelming proportions.

Members of the subcommittee, we also need to put the proposed loan program for local communities into perspective. Even assuming the SRF is funded at the levels proposed by the Administration – perhaps an optimistic assumption – the lion's share of the water supply infrastructure costs, needed to expand, improve, repair and replace existing water infrastructure, will be met locally.

This will be particularly true for larger cities. The Administration has been clear in identifying small and rural systems as those most in need of financial support. Given this fact, AMWA has to assume that the amount of money potentially available to meet the needs of large city water supply systems will be substantially less than the aggregate funding levels of any drinking water SRF, and very substantially less than the needs large cities will face over the next decade.

We feel it is important that Congress recognize the cost and be fiscally responsible for the programs it mandates. We also believe that Congress needs to evaluate the cumulative burden of existing federal mandates (prior to creating new ones), and ensure that they provide the public and the environment with a benefit commensurate with the cost.

### **Conclusion**

There are many other aspects of previously introduced or draft CWA bills that will impact water suppliers. This testimony has concentrated on some of our specific interests that will help to insure that the drinking water provided by public water systems to over 220 million citizens remains the best in the world. We are pleased to have had the opportunity to make our views known to the subcommittee, and look forward to working with you as the reauthorization process unfolds.

Thank you for the opportunity to testify and I would be happy to answer any questions you may have.

YAGER

**STATEMENT**

**OF THE**

**NATIONAL ASSOCIATION OF HOME BUILDERS**

**BEFORE THE**

**HOUSE PUBLIC WORKS AND TRANSPORTATION  
WATER RESOURCES AND ENVIRONMENT  
SUBCOMMITTEE**

**REAUTHORIZATION OF THE CLEAN WATER ACT**

**MAY 11, 1993**

## REAUTHORIZATION OF THE CLEAN WATER ACT

Good morning, my name is Milan P. Yager and I am Legislative Director of Environmental Policy for the National Association of Home Builders. I am pleased to be here this morning representing the National Association of Home Builders (NAHB). NAHB is an association of over 160,000 member firms engaged in all aspects of residential construction.

### THE NATIONAL ASSOCIATION OF HOME BUILDERS

NAHB and its' 800 state and local affiliate builder associations have been heavily involved for many years in clean water policy debates at the federal, state and local levels. Many of our members have been leaders in wetland restoration and preservation projects, stormwater discharge control and management, and pollution prevention for land development across the country.

NAHB is made up of small business people, with over half of our members building fewer than 10 homes per year and close to 75 percent of our members building 25 or fewer homes. These are truly small business people. However, collectively, home building plays a significant role in our nation's economy. The investment in fixed residential structures, in real dollars, is equal to 4.3 percent of our nation's GDP and when you include spending on new residential appliances, carpets and home furnishings, the gross housing output is greater than 7 percent of GDP.

### SECTION 404

This morning we would like to focus attention on the Federal Water Pollution Control Act (Clean Water Act) Section 404, the wetland regulatory permit program.

From the outset, let it be very clear that NAHB recognizes the importance and value of our nation's wetlands, and, we want to protect wetlands and our environment. However, the current system for protecting wetlands does not work. It lacks balance between needed protection of wetlands and the environment, and the need for economic development and jobs in our local communities. Furthermore, the current system is a bureaucratic nightmare full of overlapping jurisdictions, costly delays, burdensome confusion and inefficient regulations.

Mr. Chairman and members of the committee, it is high time we move past the rhetoric of who is for and against wetlands and instead, focus our energy on how to make the current system work. We have been encouraged in recent weeks by statements by Chairman Mineta and others that it is now time, regardless of how challenging the task, to address wetland reform. Many of you were elected or reelected with the mandate to break the gridlock in Washington that is holding hostage important legislation needed to get this country moving again. Regardless of your position on wetland reform, it is time to roll up your sleeves and hammer out a Clean Water Act Reauthorization that includes an effective and efficient wetland permit program.

### MAKING THE CURRENT SYSTEM WORK

To address the failures of the current program and balance the needs of wetland protection and economic development in our local communities, NAHB recommends Congress adopt a comprehensive wetland reform package that includes the following:

- 1) Establish a Congressional definition of a Federal jurisdictional wetland for purposes of Federal regulatory protection under the Clean Water Act and exclude from regulation all land areas which fail to meet a strict three parameter definition of wetlands.
- 2) Focus wetland protection on our nation's most valuable wetlands by classifying all wetlands into three categories and providing regulatory protection accordingly.
- 3) Streamline the current regulatory program by transferring all wetland permit authority to a single federal agency, improving efforts for state assumption of the permit program, establishing deadlines for consideration of permits, implementing an administrative appeals program, instituting a wetland mapping program and requiring that all program regulations and guidelines be subject to public notice and comment.
- 4) Establish an effective wetland mitigation banking system to help achieve the goal of no-overall-net loss of wetlands and, ultimately, to help increase the nation's wetlands resources.

### LEGISLATIVE ACTION IS NEEDED...NOW

NAHB believes the time to implement the above suggestions is now! The Final Report of the National Wetlands Policy Forum, highlighted the needed call to action by saying, the "current regulatory and nonregulatory program leave much to be desired...in short, current programs are too cumbersome and the responsibilities too diffuse to guarantee anyone -- landowners, the regulated community, conservationists, or even the regulators themselves, consistency, predictability, timeliness, or effectiveness. It is a system that allows hundreds of thousands of wetland acres to continue to be lost or degraded annually, almost unnoticed, while substantial resources and time often are devoted to determining the fate of a few relatively small acres." As remarkable as it may sound, these remarks were made in 1988 and remain as relevant today as they were then.

### CONGRESS NEEDS TO ESTABLISH WETLAND POLICY

To begin with, NAHB believes Congress needs to establish the public policy for the protection of our nation's wetland resources. The Congress has neglected this responsibility and has left policy for this important resource in the hands of judges and name-less administrators and regulators. This has got to end. These are, after all, "waters of the United States" and the policy regarding these waters should be established by Congress.

Only Congress can stop wetland losses by bringing under the regulatory umbrella activities that are destructive to wetlands such as draining, channelization and excavation. Only Congress can end the bureaucratic nightmare of overlapping permit jurisdiction and vetoes by establishing a single permit agency. Only Congress can increase the efficiency of the program by establishing categories of wetlands to allow regulators to focus additional protection on the nation's most valuable wetlands. Only Congress can establish fairness to the permit program by granting applicants appeal rights. Only Congress can permit the use of mitigation banking as a way to restore millions of acres of lost wetlands in an attempt to increase this nation's wetland resources. I hope it is becoming clear that only Congress can change the law to make this program efficient and effective.

#### PUTTING "WET" BACK IN WETLANDS

NAHB believe this Committee should begin the process of wetland reform by approving a legislative reform package to Section 404. The first component of your legislative reform package should be a clear Congressional definition of what land should be delineated as a wetlands.

By defining water of the United States or wetlands, we are not asking Congress to consider every specific criteria for hydrophytic vegetation, hydric soils and wetland hydrology. However, we do believe it is responsible, even necessary, for Congress to establish the definition of what types of lands should be jurisdictional for purposes of the Clean Water Act. In this regard, the Congress needs to begin with how wet a wetland should be to be considered a "water of the United States." The hydrology criterion is, in fact, the most critical factor which differentiate land as either upland or wetland.

Last year over 80,000 people commented on the first ever public rulemaking on the Manual for Delineation of Federal Jurisdictional Wetlands. Most of us are familiar with how controversial this rulemaking has become. Some have suggested the difficulty is the lack of good science. If only that were the problem. Instead, the problem is the lack of good national policy as to what types of land should be delineated as Federal jurisdiction land important to the nation's clean water.

In 1972, when Congress first passed the Clean Water Act, it did not use the word "wetland" or define what land should be considered a Federal jurisdictional wetland. Instead, Congress defined jurisdictional waters as "waters of the United States." In 1977, Congress recognized that it had not provided clear direction regarding the definition of jurisdictional lands. The House of Representatives proposed to restrain the reach of Section 404 jurisdiction to navigable waters and adjacent wetlands, with specific definitions of each term (See Section 16 of HR 3199, as reported) The Senate, however, favored delegation of Section 404 to the States without a specific wetland definition. It was thought that by delegating the Section 404 program to the States, each state could protect its wetlands as it deemed appropriate, within guidelines set by the U.S. Army Corps of Engineers (The Corps). Consequently, the 1977 amendments simply reaffirmed that Congress did not intent to use a narrow "navigability" definition but rather something broader. Congress

passed the Clean Water Act reauthorization in 1977 without a clear definition of "waters of the United States," and no legislative definition of jurisdictional "wetlands."

Today, the issue is not whether Congress should define the types of plants found in particular jurisdictional wetlands. That should be left to the scientist to determine. But Congress should require that lands subject to Federal jurisdiction should have independent indicators present for all 3 wetland parameters (wetland hydrology, hydrophytic vegetation and hydric soils). Congress should also require surface water for 21 or more consecutive days during the growing season. These two changes would return the regulatory program to regulating the type of land most of us call swamps, marshes and bogs.

#### NATIONAL ACADEMY OF SCIENCE STUDY

As we discuss the need for Congress to define the types of land subject to Federal jurisdiction under Section 404, it is appropriate to say a few words about the National Academy of Science (The Academy) study for which Congress appropriated funds in the 102nd Congress. Unfortunately, this study has not begun and it appears the study may be months, if not more than a year behind schedule. The Section 404 permit program only applies to lands that are jurisdictionally defined as Federal "wetlands" under the Clean Water Act. But what types of land qualifies as jurisdictional? Unfortunately, as we have stated, the Clean Water Act is silent on this policy question. It was not until the 1977 amendments that wetlands were even mentioned in the statute and they are defined as areas such as "swamps, marshes and bogs." In the 102nd Congress, a number of groups, including NAHB, urged Congress to establish in the law the policy criteria for the types of land that should be regulated under the scope of the Federal jurisdiction. Other groups urged Congress to avoid addressing this policy issue stating that further science was needed and they urged a study by the Academy.

This idea was proposed, debated and defeated by the House of Representatives by a vote of 181-241. Many lawmakers believed that after 20 years of research and volumes of field data it was unlikely the Academy would discover any new science during a one year study. After all, the 1987 Manual was written after 10 years of research and field testing at a cost of over \$5 million. However, at the close of the session, such a study was included, without hearings or debate, in the Environmental Protection Agency (EPA) appropriations bill. The study was to be completed within one year of enactment and at a cost of \$400,000. Seven months later, EPA and the Academy are still negotiating the terms of the study. The Academy is seeking additional time and money.

The issue of whether additional scientific or policy criteria are needed was addressed by the Supreme Court in the Avoyelles Sportsmen League v. Alexander case when the court stated, *"It is quite obvious from this history that the term 'waters of the United States' and 'wetlands' are not terms of pure science. They are not meant to be. 'Wetlands' is a jurisdictional term, the product of the legislative process... Thus the 'wetlands' definition does not answer a scientific need, it satisfies*

*a practical, a social, a political need, the need to define the scope of Section 404 jurisdiction."*

This question was further addressed when Janet Hathaway, Senior Attorney for the Natural Resources Defense Council stated, *"I'm always a little queasy when groups claim they have no interest other than science. These are policy matters, and everybody has some kind of evaluative point of view...Its' important to put this on the table and not hide behind the usually bogus claim of science and objectivity."*

For over twenty years scientists have collected data on the criteria to determine if land is a "wetland". However, different criteria are used depending on what types of land should be included. The type of land is usually defined in the Federal, state, or local statutes. These laws do not define the scientific delineations necessary to identify specific lands but instead, establish the policy criteria that justify the regulation of the land.

The accumulation of knowledge and scientific research on wetland delineation makes one fact inescapably clear: there is simply no body of information that will provide easy, certain answers to wetland delineation questions without Congressional action to define the type of land that should be regulated under the Section 404. Congress must demand that if this study is to be completed, it needs to begin now, without further delays, and within the budget appropriated.

#### SCOPE OF REGULATED ACTIVITIES

Section 404 of the Clean Water Act requires permits for the discharge of dredged or fill materials into navigable waters, which the statute defines as "waters of the United States." Once Congress more clearly defines "waters of the United States," as we have discussed above, NAHB believes it is critical the regulated activities of Section 404 be expanded.

It has often been believed that all activities undertaken within a wetland requires a Section 404 permit. However, this belief is wrong. Many activities that are specifically harmful to wetlands are not regulated. A GAO study found that "many activities resulting in substantial wetland losses are not regulated by the Section 404 program." Section 404 regulates only one limited class of activities: the discharge of dredged or fill materials from a point source. Activities associated with home construction generally are included in this class of activities if undertaken on land considered a jurisdictional wetland.

The limited scope of the program can be explained by Congress' intention that the 1972 Clean Water Act be a pollution control program from point sources and not a wetland regulatory permit program. Furthermore, it is clear Congress did not mean to regulate activities in jurisdictional wetlands but rather the sources of pollution. In the legislative history of the Act, Congressional Research Service wrote that Congress focused on the fact that the dredged soil resulting from the creation and maintenance of navigable waterways was often contaminated and concluded that the common practice of disposing of dredged spoil in other areas of the navigable waters ought to

be regulated. The limited scope of the Clean Water Act Section 404 program is a major reason why Congressional gridlock must end and comprehensive reform be included in the reauthorization.

While judicial decisions and citizen suits have attempted to increase the scope of the permit program, the clear statutory language and legislative history have restricted many such efforts. If our nation's remaining wetland resources are to be managed, the Clean Water Act needs to be amended to include as regulated activities draining, channelization and excavation.

In this regard, NAHB supports passage of HR 1330 which would address this significant problem by regulating not only the discharge of dredged and fill materials, but also the draining, channelization, or excavation of wetlands.

However, adding additional regulated activities alone will not protect our wetland resources. The expanded scope of activities should be part of a larger, comprehensive reform of Section 404 moving this program from solely a pollution control program to a wetland resource management act.

#### **SINGLE AGENCY ADMINISTRATION**

Another area that must be addressed by Congress is the burdensome, confusing, and inefficient overlapping jurisdictions of the program by the Corps and the Environmental Protection Agency. If the Section 404 program is to be efficient and effective and reformed into a wetland resource management act, then the program must be given to a single Federal agency to administer. This will not only bring efficiency to the program and reduce costs and confusion to applicants but will place total responsibility and accountability with a single agency. No longer will one administrator be able to point to another and claim that it wasn't their responsibility to promote wetland protection, research new restoration technics or undertake aggressive mitigation banking to increase the nation's wetland resources.

The problems of bifurcated agency administration goes back to the beginning of the program. The Section 404 permit program originated with the 1972 Clean Water Act, a program intended to control pollution from point source discharges of dredged or fill material. During the debate, Congress avoided the decision of who should be responsible for the program by granting the Corps of Engineers permit issuance authority and, the newly created EPA a significant parallel authority to set general permit standards and the power to veto specific permits. No agency was charged with the responsibility to educate the public about the importance of wetlands, research efforts to reduce losses or develop proposals to restore these valuable resources or establish mitigation banks.

As the program evolved, the Corps and EPA too often developed different interpretations of the Act's permitting requirements which resulted in confusion and chaos. Furthermore, the Corps, EPA, Fish and Wildlife Service and the Soil Conservation Service all established different delineation manuals. It became possible for a landowner to get a permit from one agency and, based on the same facts, to be

denied a permit by another agency. Even today, no other Federal regulatory program gives two agencies direct authority over the same permit authority.

Not only has this bifurcated administrative structure lead to interagency disputes and costly inefficiencies, the requirements of the two agencies are often conflicting, and the results are unpredictable. The task of unraveling the conflicting policies and requirements of the two agencies fall upon the landowner. Unlike other Federal permit programs which often involve large corporations, these local landowners are least able to resolve this Federal permit maze.

It is time for Congress to end this administrative gridlock of conflicting policies, lengthy permit review delays, unnecessary permit costs and confusion. With no one in charge, opportunities for public education, research and wetland advocacy are lost in the bureaucratic chaos.

NAHB believes the wetlands regulatory program would be greatly improved by Congress giving sole regulatory authority to a single Federal agency. In this regard, we urge Congress to vest not only the authority to regulate wetlands, but also the mission to protect this nation's wetland resources with the Army Corps of Engineers. To achieve such a goal, we support HR 1330 which would grant the Corps sole authority to administer the Section 404 program.

We support giving the Corps this mission because of their extensive network of District Offices and larger field staff, two essential components necessary to run a regulatory program involved in over 75,000 local permit actions each year. Finally, there is one additional reason why the Corps should be the sole agency to administer the Section 404 program. Approximately 40 percent of the permits the Corps processes are for Section 404 and Rivers and Harbors Act Section 10 activities. Because Section 10 authority rests with the Corps it makes additional sense to give sole authority for Section 404 to the Corps.

#### WETLAND CLASSIFICATION BY FUNCTION AND VALUE

Since 1972, Section 404 has regulated all Federal jurisdictional wetlands equally. However, Florida's wetlands differ significantly from the mountain bogs of Maine, just as the functions and values of the wetlands of the Chesapeake Bay differ significantly from the rural wetlands found on farm land in Ohio. The only common factor is that the Federal government regulates all these lands and all activities on these lands, as the same.

Today, competing social, economic and environmental objectives merit a wetland classification system to meet the needs of water resource management. As drafted, Congress provided no classification system for categorizing "waters of the United States." In 1972, the program was written to regulate dredge and fill pollution activities in "navigable waters of the United States." As the law was amended in 1977 to include areas such as "swamps, marshes and bogs," the geographic scope of the program changed, while the focus remained primarily on prohibiting all dredge and fill pollution from entering the nation's waters.

As the geographic scope of the program continued to expand over the years from swamps, marshes and bogs in riparian areas to prairie potholes, isolated wetlands and man-made highway drainage ditches, the regulatory program began looking more like Federal land-use planning. Regulatory tools such as sequencing (requiring avoidance, minimization and mitigation in sequence) were implemented. These tools focus less on maximizing the return of a particular water resource and more on no-net-activity on the land.

In recent years, EPA, wetland scientists and environmental groups have begun "investigating classification of wetlands into a few broad groups based on their functional values." Such investigations are based on the diversity of wetlands throughout the United States and the foresight toward maximizing wetland management to serve the larger purpose of watershed resource management.

Wetlands occur in a broad spectrum of geographic and climatic regions. They also operate as part of a larger watershed resource. Northern and prairie state wetlands are very different from southern and coastal wetlands. Their value as a natural resource and their function in watershed management vary significantly. Classification should be the regulatory connection to wetland functions and values. It would change the attention from delineation of hydrophytes and hydric soils, and of loss acreage, to flood protection and pollution filtration.

However, this change in focus can only be achieved if wetlands are considered a managed resource. Wetlands of exceptionally high functions and value to a watershed may merit a management strategy of avoidance. A significantly different watershed management strategy is appropriate for abundant and marginally functional wetlands. This approach focuses on the net-environmental benefit to water resources as opposed to no-net loss of wetland permitting. The fact that classification systems are difficult to establish and administer does not change the fundamental reality that we are serious about resource management from an economic, as well as a watershed and environmental protection point-of-view.

We strongly urge Congress to authorize a classification system for Section 404 wetland resource management. This system will increase regulatory efficiency by providing a framework for decisions and actions. The classification system should occur during an advance identification effort or early in the permit process. This will allow permit, personnel and enforcement allocations to more critical water resources. It will also reduce uncertainty and inspire new public support and compliance in the permit program.

One such classification system the Committee should consider is found in HR 1330. HR 1330 would establish a three-tier classification scheme for wetlands based on their functions and values. Type A -- those with the highest values -- would be those determined to be critically significant to the long term conservation of the ecosystem in which they are located. Type B wetlands would be those which provide habitat for a significant population of avian aquatic or wetlands dependent wildlife, or provide other wetlands functions including significant enhancement or protection

of water quality, or natural flood control. Type C would be those which serve limited wetlands functions and are of least significant environmental value.

Classification as envisioned in HR 1330 is a significant environmental benefit for wetland preservation. Under the existing regulatory system, all wetlands are treated as if equal and are given regulatory protection against the discharge of dredged or fill materials. However, under a classification system it is possible to extend a higher level of wetland protection - one that is much closer to the preservation of the land - to the nation's most valuable water resources.

Classification also improves and targets the regulatory system to the nation's most valuable wetlands. Less time would be spent issuing permits for activities in wetlands of marginal value (Type C) and more time spent assuring that the functions and values of higher quality wetlands are protected. Thus, classification would maximize Federal efficiency by focusing attention on wetlands most valuable in protecting water quality.

#### PERMIT DELAYS

Improving the efficiency of the regulatory system through a classification system is desperately needed as the permitting demands have far exceeded the Federal agencies' resources. One Corps District Engineer wrote to the Corps Headquarters, "We are imposing severe time delays on the public and foreclosing development options on considerable tracts of land. It appears that we have lost our focus on what we are regulating and why we are regulating it."

Former EPA Administrator Reilly recognized this fact when he stated, "The second complaint most frequently encountered from owners of wetlands is, if a person is subject to wetlands permitting regulations, can they expect a decision in a reasonable time?"

To address this problem, deadlines for permit reviews must be included in wetland reform legislation. NAHB specifically supports the legislative language as drafted in HR 1330. We hope the members of this Committee will support such language.

#### MAPPING WETLANDS

One of the greatest frustrations for many land owners is the discovery that land they have owned for many years has suddenly been declared a wetland. It is equally as frustrating to home builders to learn that land they have just acquired may be subject to Section 404 regulatory permits even though the land has no signs of water.

In these situations the land is seldom a swamp, marsh or bog. It is usually land that is wet for only a short time each year. The adoption of a more responsible definition of a Federal jurisdictional wetland should eliminate many of these problems by delineating only wet wetlands as "waters of the United States." Regardless, it is

high time this country invest in efforts to map wetlands to help everyone know where such lands exist.

In most every town, parish or village in America, maps exist showing soil types, flood plains and elevations. Yet, if you were to consider purchasing a site for a new residential neighborhood there is no map to which you could refer to determine if the site is a wetland. What better tool to direct development and other regulated activities away from wetlands than mapping?

NAHB supports a mapping provision included in HR 1330 which would require the identification and classification of wetlands within 10 years after enactment. The mapping project would involve notification to land owners to assure their participation in the mapping process. Environmentalists would also benefit as the identification of wetlands would, to the fullest extent practicable, become part of property records in the county, parish or borough in which such wetlands are located. As home builders, we carefully review such records and I can assure you there is no better form of avoidance for a home builder than knowledge that a site contains a wetland.

Mapping would be expensive, it would often not be perfect, nor always accurate and occasionally the maps would have to be updated to reflect environmental and other actions that may impact a wetland's size or location. However, the cost of choosing not to map is even greater. Without maps activities are going to accidentally occur in wetland areas. Landowners are collectively going to spend billions of dollars on engineering and consulting fees reviewing and delineating wetlands. And, the Federal regulatory program will remain in the dark ages -- struggling to delineate one property at a time, each time an activity is proposed in an area that could potentially be a wetland.

#### REPLACING ALTERNATIVE ANALYSIS

Under the current interpretation of the Section 404(b)(1) guidelines, the key standard in the permitting process is to avoid a regulated activity in a wetland. Permit applicants must provide evidence to convince the Corps that there are no practicable alternative sites available to the applicant and that the applicant has avoided impacts on site to the extent practicable. Unfortunately, neither the Corps nor EPA have issued regulations on how to conduct and document an alternative analysis. When builders attempt to show they have considered all the alternatives, they are often forced to resubmit their applications several times in response to hypothetical alternatives that EPA and the Corps want them to consider.

For example, EPA has said that home builders are accountable for having to evaluate all alternatives, including purchasing non-wetlands sites not owned by the applicant, at the time they "enter the market." Yet, again, EPA has not defined when an applicant enters the market. Is it when the home builder first sees a "For Sale" sign on a tract of land? Is it when the home builder first discusses the purchase price with the owner, or is it when he/she signs a purchase option agreement? Equal uncertainty exists over the required geographic scope of the search for alternatives. Is it the applicant's market region, or the political subdivision? Is an applicant

expected to evaluate alternatives within some region broader than a political subdivision or county? As a result of this lack of guidance, applicants waste time and money responding to hypothetical and often unreasonable alternatives. Clearly, the alternative analysis is not working.

NAHB believes the best replacement for alternative analysis is useful maps identifying and classifying wetlands.

#### ADMINISTRATIVE APPEAL

As anyone who has applied for a Section 404 permit knows, the costly and burdensome regulatory permit process is a nightmare of individual decisions, upon decisions, upon decisions. First comes the decision of whether the land in question is a Federal "jurisdictional" wetland -- is the land wet, for what duration, what indicators should be used to relate surface water, should secondary indicators be used, can aerial photographs satisfy the hydrology criterion, or should the squeeze and shake test confirm surface saturation? Then come the questions regarding vegetation, soils and exceptions to the Delineation Manual. Once the land is delineated as a jurisdictional wetland the applicant faces the 404(b)(1) guidelines which involve questions about practicable alternatives for the projects; whether the project will cause or contribute significantly to the degradation of the wetland and whether appropriate and practicable steps have been taken to minimize potential adverse impacts.

Even after the Corps considers all comments, conducts its public interest review, determines that the project complies with the 404(b)(1) guidelines, and decides to issue a permit, more decisions still face the applicant regarding mitigation. How much mitigation should be required, where should the mitigation occur and how should the mitigation be maintained and enforced.

As you can see, the process involves hundreds of decisions and each and every decision impacts the cost and design of the project. Often these decisions are reached through consultation and cooperation. However, even with small, relatively simple projects, disagreements arise. Some times these disagreements can be resolved. Other times, the applicant is left with few options -- withdraw their application; modify the project and reapply; or, if, and only if your application has been formally denied, you have the right to bring suit against the Corps or EPA. At no time does the Clean Water Act provide an applicant the right to an administrative appeal.

Furthermore, the Clean Water Act precludes judicial review. Applicants are only provided the right to sue the Corps or EPA if their application has been formally denied. Consider this possibility: A land owner attempts to build a garage or addition on to their existing home. The Corps claims the land is subject to jurisdiction under Section 404 of the Clean Water Act and requires the home owner to obtain a permit. The applicant wants to challenge this claim. However, because there is no administrative appeal process and the Clean Water Act precludes judicial review unless a permit has actually been denied, the applicant must apply for and go through

the entire process, until his permit is denied, in order to appeal the government's claim that their land is subject to Section 404 regulation. For an application to be denied the landowner must submit a request for a permit, agree that their land is subject to Section 404, complete the 404(b)(1) guidelines and consider mitigation proposal. Only after completing the entire process, and only if the application is denied can the applicant seek judicial review. Not only is this process time consuming for everyone, costly to the applicant and the government, and inefficient for all parties, it is wrong!

We strongly urge the Congress to correct this inefficient, inappropriate process by adopting an administrative appeals procedure similar to most every other government permit program or environmental law.

### COMPENSATION FOR TAKING

The Fifth Amendment to the United States Constitution prohibits the government from "taking" private property for public use without just compensation. In the context of the regulatory arena, the Supreme Court has found a taking where a regulation deprives a property owner of all economically viable uses of his land and where the regulation was not substantially related to a legitimate public interest. In July 1990, the United States Claims Court issued two rulings that denial of Section 404 permits resulted in takings for which the property owners must be compensated. In *Loveladies Harbor, Inc. v. U.S., No. 243-83C [Ct. Ct. July 23, 1990]*, the court awarded over \$2.7 million in damages, plus interest and attorney fees. In *Florida Rock Industries v. U.S., No. 266-82C [Ct. Ct. July 23, 1990]*, the court awarded the plaintiff \$1 million. These appear to be just the beginnings of legal taking challenges.

The issue of "taking" is central to the question of wetland regulation since more than 70 percent of all wetlands are located on private property. Individuals have a right to expect that if the government is going to restrict development opportunities, and thus all economic value of their land, that they will be compensated for the fair market value of the land.

Some claim this is an unreasonable request because of the government's current budget deficit. However, can a price be placed on the principles upon which this government was founded? NAHB strongly believes if private land owners have their land "taken" from them by the Federal government the principles of this government require that they be compensated. The benefits of the government's regulation of wetlands are benefits that all citizens enjoy and the costs of such benefits should be equally shared by all Americans.

NAHB does not believe that all land owners of jurisdictional wetlands should be compensated for their property. Assuming a reasonable wetland permitting program, compensation should only be granted when the economic value of the land has been taken due to the denial of a wetland permit. These are areas where the public protection of such wetlands is believed to be greater than the benefits of the proposed project.

HR 1330 achieves this goal by allowing property owners whose land has been designated as containing the highest quality wetlands to apply for compensation within two years of their designation as Class A wetlands. Compensation would be provided at fair market value. NAHB supports this provision.

Finally, it is important to note that regardless of whether a private land owner is able to prove a successful takings claim against the Federal government the regulatory program is not without costs to the general public. When new schools, hospitals, residential neighborhoods or economic development projects are stopped because of Section 404, jobs are lost, growth is restricted, school and local property tax bases are reduced, and the value of local private property is diminished or totally lost. Although no funds are expended from the Federal government treasury, many different people pay the price.

This is not to suggest that all proposed activities in wetlands should be approved. Instead, we believe the Federal government must recognize that wetland protection has a price. If private lands are to be taken through the Section 404 regulatory program, private land owners should be compensated. Unreasonable demands should not restrict responsible activities in and around wetlands. There is room for wetland protection and economic development to responsibly exist together.

#### MITIGATION

Although Section 404(b)(1) guidelines and the Corps regulations have general sections on mitigation, the most far reaching policy on mitigation was adopted -- without public notice and comment required of a rulemaking -- in a Memorandum of Agreement (MOA). In the MOA, the agencies adopted a strict sequence for making wetland decisions: avoidance, minimization, and compensation. Once an applicant proves that he/she has no alternative to the activities for which they seek a permit they must minimize the amount of wetlands to be disturbed and compensate for any damage by mitigating the impacts of any unavoidable activities.

This process, starting with avoidance and allowing compensatory mitigation only as a last resort is inefficient and in some cases, counter-productive from an environmental standpoint. This "policy" forces permit applicants to focus all their efforts and most of their resources on documenting why they cannot avoid the wetland. This may involve developing several different site development plans with varying levels of wetlands disturbance and a breakdown of the cost impacts of each development plan. This analysis typically results in a Corps' decision that the wetlands cannot be avoided completely. However, to get to this point the applicant must spend considerable time and large sums of money preparing worthless, multiple site plans.

The sequencing requirement can also lead to less than optimum permit decisions with respect to the environment. By divorcing the evaluation of the applicant's mitigation proposal from the evaluation of alternatives to activities in a wetland, applicants are precluded from presenting a comprehensive picture of the net environmental impact of their project.

Furthermore, because there is no formal, comprehensive Federal policy on mitigation, particularly on the role of compensatory mitigation in the Section 404 program, mitigation gets decided on an ad hoc basis. As a result, applicants again, waste time and money arguing over mitigation requirements.

The current case-by-case, site-by-site approach to mitigation also leads to a series of small, unrelated mitigation projects scattered throughout a region. They are often too small and disjointed to maximize wetland benefits, and they sometimes suffer from inadequate monitoring and maintenance.

If this nation is to achieve the goal of no overall net loss of wetlands, or to reach beyond this goal to increasing the nation's wetland base we must address mitigation efforts. This Committee needs to provide the leadership for developing an appropriate mitigation policy that will return this nation to a course of wetland restoration.

NAHB supports the mitigation policy included in HR 1330 which recognizes that for mitigation efforts to be successful all interest must work together. Furthermore, we believe mitigation banking is an essential component of any successful mitigation policy.

#### MITIGATION BANKING

The concept of a wetlands mitigation bank is similar to an ordinary bank account. The bank owner creates, restores, enhances or preserves wetlands in advance of the anticipated need for mitigation requirements that would be part of a Section 404 mitigation policy. The wetlands values created, restored, enhanced, or preserved in the bank would be quantified, and the bank owner would be able to sell these mitigation credits to Section 404 permit applicants. Withdrawals from the bank can be made as long as mitigation credits are available.

The idea of mitigation banking is not new. In fact, the Fish and Wildlife Service has used mitigation banking since the early 1980s to off-set the environmental impacts associated with development projects. However, mitigation banking has not been fully incorporated into the Section 404 program because of the lack of Congressional leadership and EPA's concerns over the scientific uncertainty of wetland creation. NAHB believes that regardless of whether wetlands can be created there is significant opportunity for wetland restoration, enhancement and preservation efforts.

We urge the Committee to consider some of the merits of mitigation banking, including:

- 1) *Mitigation banking increases the chance that wetlands mitigation projects will succeed.* By aggregating the many small wetlands mitigation projects that would be scattered throughout a region if a mitigation banking system is not allowed, the bank can provide a "more environmentally valuable area that is more efficient and more economical to develop and manage than several scattered sites." [FWS Mitigation

Banking, July 1988, p. 2] In addition, mitigation banks can be strategically located within the local landscape to satisfy the wetlands needs of the affected region and, unlike on-site mitigation projects, bank sites can be selected on the basis of the likelihood of wetlands mitigation efforts actually being successful.

2) Mitigation banking provides mitigation in advance of the loss. Wetlands restoration or enhancement projects often take several years to become fully functional wetlands. If mitigation banking were embraced by Congress and the resource agencies, banks would be created in advance of their use for Section 404 mitigation credits, and the lag time between wetlands losses and compensation for those losses could be reduced or eliminated.

3) Mitigation banking will enhance EPA and the Corps' ability to monitor and enforce mitigation requirements. EPA and the Corps do not have sufficient staff to inspect all the mitigation projects that are currently required under the Section 404 program. Mitigation banks will reduce the number of sites that need to be inspected for compliance.

4) Mitigation banking provides an economic incentive for the bank to make the mitigation project succeed. Because the bank needs to sell mitigation credits to Section 404 permit applicants, there is an economic incentive to make the mitigation efforts work. If mitigation banking were the cornerstone of a no overall net loss policy, bank officials would have a powerful incentive to ensure that mitigation projects are effective and properly maintained. If the Corps were to determine a mitigation effort was not successful the bank would be restricted from selling the mitigation credits to permit applicants.

NAHB supports provisions in HR 1330 which would require the Corps to establish mitigation banks in each state for purposes of compensating the loss and degradation of wetlands functions and values under Section 404. The development of these banks would be fully coordinated with the Fish and Wildlife Service and the Governor of each state.

#### STATE PERMIT PROGRAM ASSUMPTION

NAHB also strongly urges the Committee to take actions to encourage state assumption of the Section 404 permit program. Section 404 of the Clean Water Act provides a mechanism for states to apply and assume the Section 404 permit program. Since wetland characteristics and functions vary from region to region and water resources deviate from watershed to watershed, everyone seems to agree the regulatory permit program should be administered by the states. State assumption could deliver permits faster, offer one stop for state and Federal permits, provide more intimate knowledge of the resource, project and local land use planning, and administer greater long-term oversight. These merits save time, money and confusion. Despite the merits and the broad agreement on assumption, Michigan is the only state that has assumed the program and it recently warned in testimony before the Senate, that it may withdraw because the Federal program has become unworkable.

This breakdown in state assumption is particularly disappointing when one considers that while the Federal government is focused on regulatory gridlock the states have lead in wetland planning, restoration and management. All coastal states provide wetland regulatory protection and management, and 18 inland states have adopted freshwater wetland regulatory statutes. In addition, an estimated 5,000 local governments have adopted wetland protection regulations. Many additional state and local governments are poised to take on larger wetland management roles, particularly if encouraged and provided incentives to do so.

Many suggest states have not assumed the program based on the lack of Federal financial assistance. While this is a significant problem, a number of factors actually contribute to the assumption failure. The most often mentioned obstacles are EPA inflexibility, the lack of clear, consistent program goals, and the failure of the Clean Water Act to provide a well thought-out partnership role.

High on the list of obstacles is the inflexibility of the EPA. Guidelines issued by EPA are too rigid to allow states adequate leeway to design a permit program. EPA believes that the Clean Water Act program requirements for compatibility mean that states need to change their statutes and regulations to be identical to the rigorous Federal program. States should be allowed to design programs that are consistent with Federal program goals even if the program itself is not identical. Indeed one state testified that were this allowed, it would assume the permit program.

States have also objected to EPA's permit-by-permit review and veto. They have acknowledged the need for Federal oversight but object to EPA's individual permit veto. They prefer annual program reviews. States have also objected to the constant changes in program policy issues and the lack of state involvement in the regulatory decision-making process. States want a partnership role in consistent, stable program regulations.

NAHB supports HR 1330 which encourages such action by the establishment of state programs that address wetlands conservation on an ecosystem or watershed basis.

### CONCLUSION

Mr. Chairman, the result of our current wetland regulations is that in addition to wetlands being lost, jobs are also being lost, economic development opportunities missed, tax assessments are threatened, and housing costs are rising. It is time Congress reform this nation's wetland law. Accordingly, NAHB urges Congress to:

- Transfer all authority for wetland permits to the Army Corps of Engineers;
- Establish a responsible definition of water of the United States;
- Exclude from regulation under Section 404 all land areas which currently fail to meet a strict three parameter definition of wetlands;

- Focus wetland protection on our nation's most valuable wetlands by classifying all wetlands into three categories and provide regulatory protection accordingly;
- Improve the regulatory process by establishing a wetland mapping system, an administrative appeals process and setting permit processing deadlines;
- Develop a mitigation banking system;
- Compensate property owners who own the highest category of critically significant wetlands; and
- Require all program regulations and guidelines be subject to public notice and comment.

In short, we urge adoption of HR 1330.

Thank you for this opportunity to testify and share our views with the Committee.

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# REAUTHORIZATION OF THE FEDERAL WATER POLLUTION CONTROL ACT

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WEDNESDAY, MAY 12, 1993

HOUSE OF REPRESENTATIVES, SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT, COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION,

*Washington, DC.*

The subcommittee met, pursuant to call, at 9:30 a.m., in room 2167, Rayburn House Office Building, Hon. Douglas Applegate (chairman of the subcommittee) presiding.

Mr. APPLGATE. Welcome. This morning the Subcommittee on Water Resources and the Environment will complete its series of hearings on the reauthorization of the Clean Water Act. Our witnesses today include representatives of industry, local government, and research organizations. The hearings have produced a wide array of testimony on subjects relating to reauthorization.

This testimony, together with that obtained from the extensive hearings the subcommittee held last Congress, should be enough to provide us with ample information to consider as we review the options for inclusion in a reauthorization bill. I want to thank all of the witnesses who have participated in these hearings. It has been extremely important.

And we will go to the panel, but before going to our first panel, I will yield to the sit-in Ranking Member, Mr. Hutchinson from Arkansas.

Mr. HUTCHINSON. Thank you very much. Thank you Mr. Applegate. The subcommittee meets for another day of testimony on reauthorizing one of this Nation's most important and successful environmental statutes, the Clean Water Act. Yesterday we heard from a wide variety of interests advocating reforms to our clean water supplies and to protect wetlands. Members of Congress and others also addressed rural community needs, nonpoint source pollution, and watershed base protection efforts.

Today we will hear from an equally broad array of experts and interest groups and we will receive critically important testimony from various industrial, commercial, developmental, and governmental organizations as well as academic and scientific representatives.

Mr. Chairman, I want to thank you for your leadership in working to protect this country's water resources, our infrastructure, and our jobs base and I look forward to working with you and with Chairman Mineta in the weeks and the months ahead. Thank you, Mr. Chairman.

Mr. APPLGATE. Before we begin I wish to yield to my friend from California, Mr. Filner.

Mr. FILNER. Thank you, Mr. Chairman. You may recall the lonely end formation of decades ago. I feel like the lonely end here. I appreciate the chance to briefly talk to you and the committee. Certainly in this current series of hearings, this freshman Congressman has learned much about the needs of rural areas, smaller cities, and wetlands, but we have not yet focused our attention specifically on coastal areas.

Today I want to briefly discuss with the subcommittee an exciting new development in our coastal water quality protection efforts.

Back in 1989, Congress directed the EPA to commission an outside review of clean water policies in coastal urban areas of the United States. No such review of the policies laid down by the Clean Water Act had been conducted since 1975. The EPA, in turn, requested that the Water Science and Technology Board initiate this review.

Three weeks ago, almost four years later, that study, entitled "Managing Wastewater in Coastal Urban Areas," has been completed and its results promise new scientific advances in our efforts to protect water quality in coastal areas.

The purpose of the study was not to review past decisions but to identify opportunities for improving the current systems through which coastal urban wastewater and storm water are managed. The study found that although significant progress had been made in improving the water quality over the past 20 years, many coastal areas continue to suffer from persistent environmental problems and can expect to encounter new problems in the future. The study also found that today's coastal water quality management practices do not provide adequate protection from some types of problems and in some cases are overprotective of other types. The report identifies several key areas in which specific progress could be made and recommends a new more comprehensive—and for my City of San Diego, importantly—a more cost-effective framework for coastal management.

The approach we have been looking at in the 1972 Clean Water Act produced rapid and effective improvements in many areas, but it has not always allowed a process that adequately addressed regional variations in environmental systems around the country or responds well to changing needs in science and more complete information. In many cases, it has mandated costly wastewater treatments which produced no significant improvement in ocean water quality.

But, since 1972, important changes have taken place in government, science, and engineering and the expectations of the public in regards to wastewater and storm water management in environmental protection. This study comes to the important conclusion that while treatment plant and outfall technologies have often dominated discussions of wastewater issues over the last two decades, they are only two of many important pieces that together make up a coastal wastewater management strategy.

Our hearings to date have identified the many successes and some of the shortcomings of Clean Water Act since 1972. As we approach reauthorization on this act, I believe it is critical that we

incorporate the most current scientific advances made over the last two decades. The information contained in the report that I mentioned is both cutting edge and crucial to water quality protection and management in coastal areas.

For these reasons, I am respectfully requesting that the Chair take under advisement the possibility of holding one additional hearing on the Clean Water Act in order to examine and evaluate the information contained in this report, "Managing Wastewater in Coastal Urban Areas." I know the hearings were scheduled for completion today, but I believe, given the importance of the recommendations, we must, in fact, cover the Nation's coastal areas with the kind of comprehensive protection offered by the conclusions of this report.

I expect to be joined in this request by the mayors of the cities of Seattle, New York, Boston, Baltimore and, of course, San Diego.

I think, Chairman Applegate, that this report will provide our subcommittee, under your leadership, with the opportunity to put our own stamp on the Clean Water Act reauthorization. Its conclusions will allow us to refine and enhance this important piece of legislation using the scientific advances and experience that we have gained over the last two decades. And as we move into the 21st Century, let's seize the chance to develop a 21st Century Clean Water Act.

I appreciate your cooperation and leadership in allowing new Members of Congress to learn and to participate in this process.

Mr. APPLEGATE. I thank the gentleman and my friend of California and I suppose what I could do is amend my original statement and say that this nearly completes the series of hearings and that we will take that under advisement and I will be working with you and with the possibility that we could hold some hearings and bring those people in and see what conclusions we can arrive at. I don't know whether there will be a solution or not but we will be glad to do that.

Mr. FILNER. Thank you very much.

Mr. APPLEGATE. Now, we have, who has returned to us from other hearings, Mr. Boehlert.

Mr. BOEHLERT. Mr. Chairman, first of all, I want to open up initially with an apology. That is not something people hear too often around here, but my apology to all of those who are following very carefully the day-to-day developments on this very important legislation, but yesterday I had to be in Boston and I missed the hearing. I was in Boston testifying before the Base Closing and Realignment Commission. People on the other side of the river had the audacity to suggest that they should close Griffiss Air Force Base involving 8,000 jobs and that is in my district, and I won't surprise anyone in this room, to me, that I don't think that is in the national security interest.

Today marks the final day of scheduled hearings on the reauthorization of the Clean Water Act. Over the past four months, this subcommittee has heard testimony from representatives of all major interests in the reauthorization of the act, including the agriculture community, environmentalists, industry folks, and officials from the municipalities across the Nation.

Throughout the course of these hearings, certain themes were consistently repeated and it is around these themes that we will begin crafting a bill. Continued capitalization of the SRF, greater flexibility for States in administering the SRF, expediting the wetlands permitting process, applying significant new resources to nonpoint source pollution and developing a holistic watershed approach to water protection are some of the themes around which we will be working.

Today's witnesses will undoubtedly shed further light on the direction which the Clean Water Act should take. I look forward to their testimony today and to working with them in the coming months as reauthorization legislation is developed. And I would like to particularly commend you, Mr. Chairman, for your diligence in pursuing this.

Some people have an attitude around this town, "What is the rush?" I think this is extremely important legislation and I don't want to put it off until next year. I want to get it moving this year and I know you are committed to that proposition, and I thank you for your leadership and look forward to working with you in a bipartisan way to fashion a bill that meets the great demand that is out there all across America. Thank you.

Mr. APPELATE. Thank you, Mr. Boehlert.

I would only say that I concur wholeheartedly in what you are saying and I think we will work together and I feel very confident that we will come up with legislation this year that will be beneficial to everybody and that will be a real trick.

Mr. Zeliff.

Mr. ZELIFF. Thank you, Mr. Chairman. This is the last, obviously, of a series of hearings that the subcommittee will hold on reauthorization of the Clean Water Act. Testimony we have heard so far on the act has been informative and constructive and will no doubt be very helpful as we look to ways to improve the act and assist local communities faced with clean water needs. There is no question we need to address the problems affecting the Nation's rivers, lakes, streams, estuaries, and wetlands.

However, as we endeavor to do so we must remain mindful of the economic impact that new Federal laws and regulations have on those who must ultimately bear the cost. Today we will hear the important views of business and industry as they relate to the Clean Water Act and I would especially be interested in hearing their insights on the impact of the act as to their future ability to compete.

We will also hear the perspective of local government and planning organizations as well as the academic community. This legislation will represent the most important environmental initiative undertaken by the 103rd Congress and the testimony we receive today will no doubt further this subcommittee's understanding of the direction we should take with reauthorization of the act.

So, Mr. Chairman, thank you for your leadership. I look forward to the testimony.

Mr. APPELATE. Thank you, Mr. Zeliff.

I think we are ready to proceed and, first of all, we are going to have our first panel. As I call you, you may take your seats. We have Frank Hackmann of the U.S. Chamber of Commerce; Hugh

Campbell, Junior, of the Chemical Manufacturer's Association; David Norwine, National Association of Metal Finishers; James Batchelder, American Wood Preservers Institute; Jeffrey Silliman, American Textile Manufacturers Institute; Duane Marshall, American Forest & Paper Association; and John Stein, National Environmental Development Association.

We welcome you to the committee. We have had many, many people come before the committee and testify. However, you have a little different approach than a lot of them have and we welcome that, because it is something that we are touching on that is a little bit different and we need that kind of information.

So with that, we will just begin with Mr. Hackmann.

**TESTIMONY OF FRANK H. HACKMANN, PARTNER, U.S. CHAMBER OF COMMERCE, SONNENSHEIN, NATH & ROSENTHAL; HUGH CAMPBELL, JR., MANAGER, CORPORATE TECHNICAL RESOURCES, DuPONT CO., CHEMICAL MANUFACTURER'S ASSOCIATION; DAVID NORWINE, CHAIRMAN, GOVERNMENT AFFAIRS, HAWARD CORP., NATIONAL ASSOCIATION OF METAL FINISHERS; JAMES R. BATCHELDER, VICE PRESIDENT, KOPPERS INDUSTRIES INC., AMERICAN WOOD PRESERVERS INSTITUTE; JEFFREY SILLIMAN, MILLIKEN & CO., AMERICAN TEXTILE MANUFACTURERS INSTITUTE; DUANE MARSHALL, DIRECTOR OF ENVIRONMENTAL AFFAIRS, UNION CAMP CORP., AMERICAN FOREST PAPER ASSOCIATION; AND JOHN STEIN, DIRECTOR OF STRATEGIC ENVIRONMENTAL INITIATIVES, NATIONAL ENVIRONMENTAL DEVELOPMENT ASSOCIATION**

Mr. HACKMANN. Thank you. Good morning. On behalf of the U.S. Chamber of Commerce in the panel today I would like to thank you for the opportunity to present our views on some critical aspects of the Clean Water Act reauthorization. We particularly wish to thank the Chairman and the staff for devoting the time today to discussing new or evolving reauthorization issues which have not previously been addressed by our group in detail.

In order to maximize time for dialogue on these new issues, each of us will take three to five minutes to highlight key areas. We will also submit our full written statements for the record.

I have practiced environmental law for more than 20 years and worked as an environmental engineer before that. I believe most commentators would agree overall that the Clean Water Act is one of the most successful environmental programs we have. However, there are several recent developments which concern us. These relate to increased regulation by memorandum and policy guidance. Departures from sound science to highly conservative, if not unrealistic mathematical models, coupled with adherence to rigid numerical standards and the increasingly complex storm water regulations and permitting process without, in our opinion, corresponding environmental benefit. We look forward to a dialogue today on these emerging issues, plus, of course, on any other concerns the committee has. Thank you.

Mr. APPLGATE. All right.

Mr. Campbell.

Mr. CAMPBELL. Good morning. My name is Hugh Campbell. I am Manager of Corporate Technical Resources for the DuPont Company. I am appearing today on behalf of DuPont and the Chemical Manufacturers Association to discuss our views on pollution prevention in the context of the Clean Water Act reauthorization.

Mr. Chairman, I want to make two points today. First, the Clean Water Act is a pollution prevention statute. Second, flexibility is key to the continued success of this act. The act challenges us to look beyond treatment to other pollution prevention practices and policies such as source reduction and recycling. The results have been nothing less than remarkable.

According to information supplied to EPA's toxic release inventory, Clean Water Act standards adopted in 1987 have helped to reduce chemical industry discharges to America's waters by 77 percent in just five years.

Let me give you a couple of examples of how the Clean Water Act encourages companies to prevent pollution, not just treat it at the end of a pipe.

The act, as you know, has very strict technology effluent guidelines for our industry, but they are performance-based. We are free to develop and implement our own solutions to meet these limits. At DuPont's Deepwater, New Jersey complex that has meant spending more than \$10 million on a number of projects to recover and reduce waste. We were able to reduce the volume of toxic pollutants we send to our wastewater treatment plant by 1 million pounds per year. At our Belle, West Virginia, plant DuPont implemented 10 separate source reduction programs to meet effluent guidelines for both conventional and toxic pollutants. We substituted solvents in our manufacturing process and increased product recycling.

The result was a 50 percent reduction in toxic pollutants sent to our wastewater treatment plant, and more importantly, our project led to nearly complete elimination of three toxic pollutants from our discharges.

The Clean Water Act controls on industrial discharges have improved water quality because these controls are designed to ensure continual improvement. The law requires EPA to revise technology-based standards as technology improves. Moreover, water quality based requirements are playing a bigger and bigger role in reducing discharges. Just to meet these increasingly stringent limits, industry will have to engage in even more source reduction and recycling techniques. To meet these challenges we believe flexibility is key.

Pollution prevention is not a one-size-fits-all proposition. Each of DuPont's pollution prevention projects had to be individually tailored to the facility.

In summary, we believe that the Clean Water Act contains ample incentives for companies to practice pollution prevention. We do not think that additional pollution prevention authority needs to be written into the act, but if this committee wants to promote additional pollution prevention through the act it would have to be made much more flexible. CMA's written statement addresses this question in detail. I would like to thank this committee for the op-

portunity to testify and I would like to offer CMA's written statement into the record.

Mr. APPLGATE. Let me say at this point that each of your statements will be made a part of the record. Mr. Norwine.

Mr. NORWINE. Mr. Chairman and members of the committee, good morning. I am David Norwine, Vice President of Haward Corporation, a small electroplater plant in New Jersey. Today I am here on behalf of the National Association of Metal Finishers which represents 800 of the over 4,000 metal finishing companies in America. This industry has been on the front line of environmental regulation for over a decade. The results have been nothing short of spectacular.

The metal finishing industry is now one of the most protective of our environment. The Clean Water Act is one of this country's real success stories. Most of the industrial pollution of 10 years ago has been reduced to the point that today the remaining majority is now coming from nonpoint sources. When the provisions of the present act are fully carried out, the industrial contribution will be reduced even further. The present EPA effluent guideline plan lists 21 ongoing and additional regulations and 11 pre-regulatory studies. This all takes us up to the year 1999.

EPA estimates that one SIC code alone will regulate another 855,000 sites. NAMF serves as a participate member of this judicially mandated guidelines task force. The collaborative process of bringing in all the interested parties is an outstanding example of how environmental policy can and should be made. The perceived need for and call for consistency is particularly strong from local authorities. Regulated industries, communities and POTWs have all made significant investments in technologies and facilities in order to respond to effluent limitations.

Any major changes to the program will affect the precarious competitive status of our industry. The Clean Water Act is working very well.

Now, I want to touch on one other aspect of the Clean Water Act water quality standards in 1972. The Clean Water Act used the phrase, "latest scientific knowledge".

NAMF wishes to bring the issue of scientific validity to the attention of the subcommittee with the emphatic suggestion that the Congress must compel EPA to revamp its development procedures to use good science. The current water quality standards attempt to regulate metals to levels far below background levels which will lead to extremely high cost with negligible results in water quality improvement. NAMF members understand clearly the meeting and exceeding of standards.

We get upset when the regs are based on flawed logic, appeals to emotion or are written in the fog of bad science. We hope the Congress will use the reauthorization of the Clean Water Act as an opportunity to address environmental issues in the bright light of good science. NAMF wishes to thank the committee for this opportunity to provide testimony.

Mr. APPLGATE. Thank you, Mr. Norwine.

Mr. Batchelder.

Mr. BATCHELDER. Mr. Chairman and members of the subcommittee, thank you for the opportunity to present the views of the

American Wood Preservers Institute on the Federal Water Pollution Control Act reauthorization.

I am Jim Batchelder. I am Vice President and Manager of Environmental Affairs for Koppers Industries, Inc., in Pittsburgh. We own and operate 13 wood-preserving plants in the United States, providing approximately 600 jobs. These are jobs of modest skills, well paying for their areas. They include benefits and I believe very important to the rural areas in which we operate.

The Institute is a national trade association representing the wood-preserving industry. We submitted previously written testimony which includes five comments. But because of the necessity of brevity I will stress just one that is very important to our industry. That most critical issue to our industry is the need to retain the domestic sewage exclusion in Section 1004 of RCRA which enables us to discharge our listed wastewaters to POTWs when pre-treated and subject to Clean Water Act permit standards. Our industry depends on it. Loss of it would be crippling.

A quick regulatory history will explain why our position is so critical. The original standards and guidelines, effluent standards and guidelines for the wood-treating industry were established back in 1972 over 20 years ago and called for zero, no discharge to surface waters. These guidelines have not been changed or updated in those 20 years. EPA is too consumed with developing new regulations to update and revisit these.

Industry complied with this no-discharge standard by establishing surface impoundments on our plant sites for retention of our wastewaters. In 1980, RCRA identified the bottom sediments sludge from these water systems as hazardous waste and therefore these ponds constituted storage of these hazardous waste. This necessitated closure of these systems. The response was to treat these waters and move toward a spray irrigation biological field technology again not allowing any discharge from the site. This was a combination of biological action and evaporation.

In 1991, RCRA acted again with a major listing involving our industry broadly listing waste and these listings included our wastewaters. Therefore, our spray field technology as then interpreted as land disposal, this practice had to cease. This only left us one regulatory option and that was to discharge to POTWs. The industry invested huge capital to build state-of-the-art retreatment facilities to meet the permit requirements of the various POTWs. It also included the costly establishment of lines and connecting costs to the POTWs. That is established and is working well.

We personally have 11 plants discharging. We have no problems, technical or otherwise. I believe it is mutually beneficial for the communities in that the local POTWs enjoy the revenues from treating our wastewaters. The domestic sewage exclusion is necessary to this process. It provides the mechanism to transfer regulatory control of our wastewaters from RCRA to the Clean Water Act so the POTWs can receive it. It does not avoid regulation; I want to emphasize that. All these discharges are permitted, pre-treated and modified to meet the limits. They are further treated when those wastewaters go to the POTW and discharged under their NPDES permit. The environmentally protected loss of it would leave us no viable option.

AWDI and Koppers support responsible legislation and regulation. We ask you to consider our concerns in your deliberations and we would welcome the opportunity to work with the committee as you consider this. Thank you very much.

Mr. APPLGATE. Thank you, Mr. Batchelder.

Mr. Silliman.

Mr. SILLIMAN. My name is Jeffrey Silliman and I am the Corporate Environmental Manager for Milliken & Company. I am here today on behalf of the American Textile Manufacturers Institute. I thank you for soliciting the advice of those of us in the industrial community who are regulated by the Clean Water Act. I, like those with me today, feel we can speak to the front-line successes and shortcomings of this act.

To begin: Metals. Regardless of whether they are naturally occurring, coming from corroding pipes or emanating from the commercial use of various products, metals, ranging from copper to mercury to lead are present in small amounts in municipal and industrial discharges to our Nation's waterways. There is not a member of this subcommittee that doesn't have a constituent interest here, be it a metal-finisher in Steubenville, Ohio; a computer manufacturer in San Jose, California; a photo-finisher in Utica, New York; a dentist in Beckley, West Virginia; a textile plant in Toccoa, Georgia; or a municipal wastewater plant in New York City.

For example, the water you and I sit here and sip, gentlemen, cannot be legally discharged from some manufacturing facilities in the United States because of the toxicity associated with its copper content. In other words, the general public can drink water with more potentially toxic copper than the EPA and some States will permit textile companies to discharge in their wastewater.

But while not all forms of metals are toxic or present a danger to human health and the environment, EPA does not distinguish between those that are and those that aren't and encourages, by guidances, the adoption of overly stringent metals limits by State permit-writers, requiring enormous capital and operating cost to meet, even when the metals present no documented danger. Such is the case with metals found in textile discharges emanating from some textile dyestuffs.

For example, one textile company has spent upwards of \$300,000 in four years attempting to demonstrate to the State of South Carolina that the metal in some textile dyestuffs, in this case copper, is not bioavailable nor toxic and therefore should not be subject to EPA and the State's strict copper standards. The State agreed, but the permit has yet to be issued. Similar stories with even higher price tags can be recited throughout the textile industry.

Therefore because of the prevalence of industrial and municipal wastewater facilities directly and indirectly impacted by EPA's water quality criteria for metals and the excessive costs incurred by industries and municipalities which treating metals to these low limits, Congress should require EPA to undertake its desired scientific review of its metals criteria within the next 12 months and to act upon its finding within the next 24 months. Industrial competitiveness and municipal solvency is at stake.

Second, allow industrial facilities that can demonstrate to EPA that they have in EPA's terms, no potential for storm water con-

tamination to exit the storm water permitting system and be managed under urban storm water management plans. This would minimize paper shuffling at both EPA and the affected facilities.

In addition, it would allow the agency to focus on the truly bad actors where storm water contamination presents some real problems and allow other affected facilities to focus on complying with other pressing environmental mandates.

For example, many textile companies not only manufacture fabric, but also cut and sew their fabric products into apparel. These cut and sew operations use minimal if any chemicals and have minimal potential for storm water contamination, but by virtue of being manufacturing operations where industrial activity takes place, they are subject to the storm water permitting requirements.

Finally, AMTEX, a lot has been said here and in the White House about transferring military research and development for industrial purposes. In March an agreement between the U.S. Department of Energy and the American textile industry was signed that will open up DOE's labs to textile chemists, plant engineers, and environmental managers for up to \$15 million in cooperative research. The environment is one of five areas selected for this research, in this instance, focus on waste minimization through the use of technology that facilitates reuse and recycling and more importantly by fundamental manufacturing process changes to eliminate waste in all forms.

Gentlemen, thank you for your attention. My additional comments have been submitted for the record.

Mr. APPELEGATE. Thank you, Mr. Silliman.

Mr. Marshall.

Mr. MARSHALL. Mr. Chairman and members of the subcommittee, my name is Duane Marshall. I am Director of Environmental Affairs for Union Camp Corporation. I am testifying today on behalf of the American Forest and Paper Association, the National Trade Association of the U.S. Forest Products, Pulp and Paper Industry.

Nationwide our industry accounts for 7 percent of all U.S. manufacturing output. AFPA's member firms directly employ 1.6 million workers and rank among the top 10 employers in 46 of 50 States.

At the outset here we have one message: The Clean Water Act works. EPA has the authority it needs to solve most of our Nation's remaining water quality concerns. As you review proposals to change the law, ask the question: Does EPA already have sufficient authority?

The pulp and paper manufacturing side of the industry estimates that since 1972 it has invested more than \$5 billion to comply with Federal and State clean water requirements. We expect to spend an additional several billion dollars in order to fully implement the requirements of the 1987 amendments, the Great Lakes initiative and the new coastal nonpoint program.

In fact, recent trends indicate that 20 percent of all future paper industry capital expenditures will go to pollution abatement efforts.

Since 1975, the amount of conventional pollutants, BOD and total suspended solids discharged from pulp and paper mills has been reduced by as much as 75 percent per unit of production.

Dioxin releases from the pulp and paper mills have been reduced by more than 90 percent since 1985.

EPA is currently developing new effluent guidelines for pulp and paper mills which will include the installation of stringent best available technology. These regulations will be finalized by 1995. With this in mind we strongly urge the subcommittee to avoid additional amendments that would disrupt this ongoing public process.

With respect to the Water Quality Standards Program, AFPA supports continuing to provide States the flexibility to adopt criteria and to designate the use of a particular water body. Additional water quality criteria should be developed but only on the basis of sound science.

Early in these hearings, Chairman Mineta rightfully noted that our ability to detect pollutants has sometimes overtaken our ability to develop additional control technologies. In fact, we can now detect to near zero levels and zero keeps moving.

To require zero discharge of some pollutants as some have proposed, even after best available technology is installed and water quality standards are being met, simply does not make scientific or economic sense.

EPA estimates that approximately one-half of water quality impairment comes from nonpoint sources. If we are to achieve water quality improvements, it is appropriate to consider additional approaches in this area. Since the passage of the 1972 act all States with significant forest management activities have either passed forest practice laws or developed best management practices programs approved by the EPA.

Our industry has been implementing nonpoint source BMPs for a number of years and we continue to improve.

As a result, EPA now documents that forestry contributes on average only 6 percent of the loadings attributable to nonpoint source pollution.

Mr. Chairman, we ask you to move forward with extreme caution in any nonpoint legislation, and to avoid a Federal regulatory approach.

First, we urge you to recognize the highly successful efforts already being made by those now implementing BMPs, particularly in silvicultural management.

Second, BMPs are and should continue to be developed on the basis of State-specific characteristics. AFPA generally supports the views of the Governors and State administrators which call for a State-based bottom-up approach.

Third, any nonpoint source program should avoid prescriptive Federal land use planning.

Finally, any new program should include all nonpoint sources. Identifying a small select group of easy targets will not result in measurable water quality improvements. As amendments to Section 404 are considered, we would like to point out that national wetlands policy forum has acknowledged forestry as an economic activity compatible with wetlands and has concluded that silvicultural exemption under Section 404 should be retained.

In conclusion, Mr. Chairman AFPA appreciates this opportunity to share its views with your subcommittee. Thank you.

Mr. APPLEGATE. Thank you Mr. Marshall.

Mr. Stein.

Mr. STEIN. Good morning, Mr. Chairman. I am John Stein and I am the Director of Strategic Environmental Initiatives to the Anheuser-Busch Companies.

This morning I am pleased to offer the views of the National Environmental Development Associations Clean Water Project on issues concerning the reauthorization of the Clean Water Act. My statement is meant to summarize and highlight the key points of NEDA's views.

In my testimony, I plan to discuss briefly four significant issues in the reauthorization of the Clean Water Act: Market based approaches, toxic use reduction, toxic pollution control and enforcement.

Market-based approaches to environmental protection can improve the quality of the Nation's water resources while insuring that the goal is reached in the most cost-effective manner. In particular, provisions for the trading of effluents in individual watersheds should be explicitly added to the Clean Water Act.

A tradable permit system should allow companies to use trading to meet BAT requirements and retreatment agreements.

In all situations, the antibacksliding provisions of the Clean Water Act should be clarified to permit trading.

With respect to toxic use reduction, the NEDA Clean Battery Project believes that Congress should not grant regulatory agencies the authority to make decisions that legitimately belong to the private sector. A recent legislative proposal would have given EPA authority to make decisions regarding production in the guise of protective water quality. Placing such authority in the hands of the regulators would have serious implications for the growth and competitiveness of the U.S. economy.

Current law provides sufficient authority to establish standards. These should be continued along with market-based approaches, innovation and flexibility. Likewise, in toxic pollution control the NEDA water project believes that Congress should not summarily prohibit the use or release of substances without carefully considering the consequences. Recent proposals to prohibit the discharge of certain chemicals do not consider the implications of such bans. Such decisions should consider the economic consequences to consumers as well as producers and the technical feasibility of achieving zero discharge along with the environmental effects of such restrictions.

In enforcement we agree with the unanimous Supreme Court decision that citizens should not be given the right to sue for violations of the Clean Water Act that occurred entirely in the past. This authority would eliminate the distinction between citizen and government action to punish past transgressions. Individual citizens are not bound by the government's need to pursue many public policy objectives and are not held accountable by the general public as is the government.

Granting citizens this right is entirely punitive. It will not improve print compliance or deter future violations. The NEDA water project also believes that natural resource damages should not be

made a part of the Clean Water Act enforcement. Environmental remediation is already provided for under other laws.

I would now be happy to answer any questions that you might have.

Mr. APPLGATE. Thank you very much, Mr. Stein, and thank you to all of you for certainly articulating your positions extremely well. It does not necessarily mean we are going to agree with everything that you said. We won't know that nor will you until we get a final bill passed and then you will know just exactly where we stand, but we do know where you stand and we are hopeful that we will be able to come up with some legislation that will at least have some pretty good support from all sectors.

Let me ask you this that it would appear that a lot of your comments were in response to Senate bill 1081, which has not been introduced this year by Senators Chafee and Baucus. Could you give me any idea as to why you think it is in response to some of the criticism that has been mentioned today? Anybody want to mention that?

Mr. MARSHALL. Well, I would only say, Mr. Chairman, that there have been and there has been additional testimony presented to you at an earlier hearing which seems to echo some of the provisions that had presence in 1081 earlier, so apparently there are communities that believe those actions are called for.

Mr. APPLGATE. Well, they seemed to be pretty excited about it last year, but nothing has happened this year. What they finally come through with would remain to be seen, but, of course, we don't have anything either yet. I think most of you support the domestic sewage exclusion.

Mr. BATCHELDER. Absolutely.

Mr. APPLGATE. Is your support based partially on the less stringent standards in the Clean Water Act as opposed to RCRA?

Mr. HACKMANN. Mr. Chairman, the answer to that is, no. From my perspective in having worked with these issues for a number of years, the thing we have to deal with in the domestic sewage exclusion is the fact that regular sewage from business of all types has constituents in it that under certain circumstances can be considered hazardous and there just has to be a way to deal with it.

The Clean Water Act has a regulatory structure to deal with that with pre-treatment standards and perhaps other members of this panel would also like to address that point.

Mr. CAMPBELL. Yes. I would like to point out that Congress asked EPA to do a study on the domestic sewage exemption and I believe that study was completed in 1986 and concluded that that exemption should be retained and that the proper vehicle for regulating those pollutants that go to a POTW is through the Clean Water Act pre-treatment provisions. As a result EPA pursued enhancing the general pre-treatment regulations in 1990 by adding more prohibitions, monitoring requirements and permitting for significant discharges and, in addition to those requirements, there are also local ordinances that limit any discharges that are in any harmful quantities. So we believe that is the right mechanism and that EPA supports that approach.

Mr. APPLEGATE. Okay. Well my time is up and I am going to abide by that little red light so I am going to, at least for the first round.

Now, I will yield to Mr. Boehlert.

Mr. BOEHLERT. Mr. Stein, in his testimony, his oral testimony, mentioned the concept of tradable permits. It is a concept I am somewhat enamored with. First of all, I would like to ask you if you have had the experience with tradable permits under the Clean Air Act and would you suggest a similar type program under the Clean Water Act and then I would like the other panelists, if they would, to comment on the concept of tradable permits.

Mr. Stein.

Mr. STEIN. Congressman, there has been a great deal of interest in watershed planning as an approach for achieving clean water goals. I think this dovetails very closely with a market-based approach to effluent reduction by looking at the experiences in the south coast basin of California with the reclaim program that is going into effect out there. I think you will see the basis for efficiently reducing pollutants within an air shed where impacts on an environment can be closely measured and controlled so there is positive environmental improvement. I think if you have a situation where industry A has the ability to overcontrol, but lacks the resources to do it; industry B doesn't have the technology, but has the resources, you can create a win-win situation.

Mr. BOEHLERT. Match the resources with the technology.

Mr. STEIN. Right and advance the cleanup of water quality and do it in a cost-effective way.

Mr. BOEHLERT. How broadly would you define a watershed? That is going to be something we are going to have to come to grips with.

Mr. STEIN. I think that is going to require some additional study to do that, but I think a watershed would be an area in which you can adequately model the water quality impacts and to determine how those pollutants interact in the water.

Mr. BOEHLERT. I am particularly sensitized to this issue because I happen to represent the New York City watershed area where in effect you have a metropolitan area of some 10 million people impacted by the activities of tens of thousands of people. So I am following this very, very closely.

Any others wish to comment on this? Mr. Marshall.

Mr. MARSHALL. I would only point out that under existing provisions of the law there have been regional planning waste load allocation-type initiatives taken at various places around the country and that there are indeed some watershed penalties such as the Pimlico Sound where localities are dealing with this question in a rather successful way, at least they believe. I think we need to be cautious here, though, in not adopting a watershed approach as a universal Band-Aid. I think it probably has merit in certain localized areas where there are finite and defined water quality problems. I think one issue that you raised is how to bring in a very large watershed and thousands of users, particularly where you start to integrate point and nonpoint source discharges. I think we have a limited, if at best primitive ability at this point to identify what the outcome of a given management practice might be on a

nonpoint source discharge. We can employ a best management practice and we can step back and evaluate it and determine what might need to be done differently, but in terms of predicting the outcome with any certainty in a trading-type scheme where nonpoint sources are involved, I think that would be a very difficult process.

Mr. BOEHLERT. The majority of problems in my case is from nonpoint source pollution, so it is a tough one to come to grips with. I see the red light is on. But I should be allowed, I would assume, to let the panel finish commenting on this one issue. Any other panelist want to address the issue of tradable permit, Mr. Norwine.

Mr. NORWINE. You mentioned New York City. New York City has a specific POTW, has a group of POTWs, has a very great difficulty with nonpoint source. Studies which were run in this last year showed that of the metals, which is the area that I am most interested in, of the metals reaching the POTWs, the very substantial amount did indeed come from nonpoint sources. In fact, they showed that of a daily receipt of 2,400 pounds of copper a day, only 61 pounds comes from industry.

The rest comes from nonpoint sources. In a study run by the City of Chicago, a number of these absolute sources have been identified and it appears that the homemaker is the big polluter. As a matter of fact, the Chicago study showed there is four times as much cadmium and six times as much lead in your toothpaste as a plater is allowed to discharge and that a hundred times more nickel in laundry soap and bath soap as a plater is allowed to discharge, that one of the most important sources of cadmium in the sewer lines is from laundry brighteners.

I don't know how we are going to get around this because America has reached a standard of living which we don't seem to want to give up and until we address this very difficult area, many of the POTWs will never make compliance with any water quality standard that anybody can think up. Until we get the trade-off with what the homemaker is doing it isn't going to happen.

Mr. BOEHLERT. Could we call that the gray shirt theory?

Thank you very much. My time is up and I will have more questions later.

Thank you, Mr. Chairman.

Mr. APPLGATE. Thank you, Mr. Boehlert.

Mr. Filner.

Mr. FILNER. Just a brief comment, Mr. Chairman. I appreciated the testimony and the themes that came out of all the testimony: flexibility, use of latest science, and certainly the economic common sense that we ought to look at all parts of the act with, and certainly those are the criteria I will be advocating as we look at the coastal waste treatment systems also. So thank you for summarizing those points.

Thank you, Mr. Chairman.

Mr. APPLGATE. Thank you.

Mr. Hutchinson.

Mr. HUTCHINSON. Thank you, Mr. Chairman and I want to thank the panel also for your analysis. I think it is one that we have

needed to hear in these hearings and I am very grateful for the presentations you have made today.

Now, as I listened to your testimony, as I read your written testimony, it seems to me that one of the common themes was that the Clean Water Act is working well. It is working fine and we don't need to make any radical or very dramatic changes in that.

Yet, in the testimony that we have heard in previous hearings, the evidence is that a large portion of the remaining pollution problems stem from nonpoint sources. And my question to the panel is would you recommend a Federal nonpoint program? I know one of the points made was that it should be left to the States, that we don't need a Federally-mandated program to handle the nonpoint source problem, that voluntary compliance or best management practices is the best way to handle it and that these measures should be given additional time. But I would be interested in the panel's thoughts on that issue. Anybody.

Mr. STEIN. Congressman, I think that if we go to a watershed-based approach that we can focus in on the problems that exist within that watershed and tailor the solution to the particular problem. I don't feel—NEDA does not feel that a Federal program is necessary to accomplish those goals. We need the flexibility to tailor a rifle shot approach to this problem as opposed to a former broad-based approach.

Mr. MARSHALL. I would only add that a Federal program tends to inevitably become terribly proscriptive and we see that the solutions to nonpoint problems tend to be far more localized and that local jurisdictions are best able to identify where the problem areas are and iterate the types of best management practices that might be called for to address those particular problems.

I think to comment further on your voluntary, let me say much of the progress to date has occurred without the strong arm of a Federal enforcement hammer. And we indeed believe that those firms, those companies, those landowners that have incorporated those practices have done a good job. But recognizing that that is not universal, there may be individuals who have not done what they might have most prudently done on a voluntary basis and certainly under those circumstances, we believe that the States should have some leverage to impose conduct on those individuals to employ best management practices.

Mr. HUTCHINSON. So you think it should be left on the State level.

Mr. MARSHALL. Without question.

Mr. HUTCHINSON. Mr. Hackmann, I was interested in reading what the Chamber's position was on the wetlands issue and that there should be a reliance upon the three traditional indicators as to what wetlands really are. But I would like you to expand a little bit on how you feel the wetlands issue should be handled, what the Chamber's position is on that, and perhaps what industry's position is on a very difficult problem that we are wrestling with when we apparently really don't have a definition of what wetlands are.

Mr. HACKMANN. Congressman, that was going to be the first thing that I was going to observe is that the biggest problem that I see with wetlands is not only the difficulty in answering the question of is it or isn't it, but the fact that depending on who you ask

you get different answers and the level of regulatory uncertainty is very great. If you have had experience of looking at some lands that, in fact, are classified as wetlands, it is easy to understand why people doing something with those lands would not think they were wetlands because oftentimes it is not readily apparent whether it is or isn't a wetland. So I think from my perspective and my experience and from the perspective as I understand it of the Chamber, one of the things that we want is a greater clarity of classification, and we also do not see a need for the greatly expanded definitions that we had in the last round of delineation manuals.

If we could have a somewhat simpler process of getting a clearance to the question of are we or are we not jurisdictional, that helps as well. The time period involved has been a big problem for me in some of the cases I have worked in and also the problem of retroactive classification where you find out after the fact that something was considered a wetland at one time and you have got retroactive permit issues and enforcement legitimizing what was there in the past. These are very, very difficult issues.

If anybody on the panel would like to add from their own industry's perspective, I would invite them to do that and we will be happy to submit some more material on this point to you in writing after the session today.

Mr. MARSHALL. I would only add from a forestry perspective or an AFPA viewpoint that classification as a wetlands should require the process or conformity with all three wetlands classifications, the criteria and that the burden of proof that a wetlands exists should rest on the government.

Mr. HUTCHINSON. Thank you. I think my time is up. Thank you, Mr. Chairman.

Mr. APPLGATE. Thank you, Mr. Hutchinson.

Mr. Deal.

Mr. DEAL. Thank you, Mr. Chairman. I would first of all like to address my comments primarily to Mr. Silliman since he is the representative of the textile industry which is a heavy industry in my district. First of all, it is my understanding that the textile industry is the first industry to enter into a joint agreement for research with the DOE laboratories and I would commend the industry for doing that.

Secondly, I would like to ask you how pervasive and costly is the metals problem in the textile industry and are you working with EPA to resolve that problem?

Mr. SILLIMAN. Yes. To comment on the first point, the Department of Energy labs went out to find industrial partners for this, the textile industry, the only place where we had history of supporting private research institutions totally from industry funds and formed a natural interface between our industry and the national laboratories. That led to the formation of what is now called AMTEX.

The issue of costs associated with the metals issue. It is certainly very widespread. Just an informal survey of about 50 members on our environmental preservation committee within ATMI revealed about 97 plants of whom 80 some already had metal limits and about 25 of those were already very concerned about their abil-

ity to comply with those limits. On an individual plant basis we were looking at numbers of anywhere from 500,000 to a million dollars per facility both to upgrade and to attempt to meet the limits and an equal amount in annual operating costs.

Mr. DEAL. Thank you, Mr. Chairman.

Mr. APLEGATE. Thank you, Mr. Deal.

Mr. Zeliff.

Mr. ZELIFF. Thank you, Mr. Chairman. First of all, in hearing the DuPont testimony, having been a DuPont employee for 17 years, I can attest to the hard work you have done in terms of Deepwater and other areas as well. And certainly in the paper industry, very important up in New Hampshire relative to jobs in the economy and I recognize the need for flexibility. I guess there will be some pressure on us in terms of the act's fishable-swimmable goal and after 20 years of effort many will argue that it can only achieve zero discharge, if not now, when or could it ever have to be addressed through zero discharge? Anybody want to comment? How clean is clean?

Mr. CAMPBELL. I will start off with that. I would like to point out that EPA Administrator Browner addressed this issue in other testimony on May fifth. She indicated out that nearly 75 percent of the Nation's assessed surface water are meeting statutory goals. So that is our baseline we are working from. The zero discharge goal in the act is conceptually a great goal and we aim for it knowing that technically it is unachievable. It violates some basic laws of thermodynamics. As I think the committee Chairman, Representative Mineta, has pointed out, as we continue to get more sophisticated analytical approaches and we get closer and closer to zero discharge zero becomes a moving target. We face the law of diminishing returns. We think we need to be focusing on real risks through the water quality standard setting process and through regional, local approaches, as we try to step to different levels of sophistication in meeting the goals of the act.

We have got well in place significant technology-based controls. There are 50 some industries controlled today by technology-based controls and more in the pipeline. We have got varying degrees of implementation in the water quality standard-setting process throughout the States as levels of sophistication and improvements which are in the pipeline. We believe you need to focus on the real risk reduction as we go forward. And I think as the Chairman of this subcommittee has pointed out, it is impossible to reduce all risks, but we want to keep trying to focus on the real risks in trying to come up with as cost-effective an approach as we possibly can for those solutions.

Mr. ZELIFF. I think the same thing applies to Superfund as well. I think you get to the point where there is no need to be perfect.

There is no health need to be perfect and I got a kick out of the comments about the housewife. How serious is some of the run-off problems and, you know, in terms of the risk of toothpaste and laundry brighteners and things of that nature, maybe you can comment.

Mr. NORWINE. Perhaps run off is not the right context. Almost all the members of our association have shops that are in cities and they are all contributors to POTWs. How important is it? The study

that was run in Chicago about a decade ago was run by the Metropolitan Sanitary District. They hired a consultant to establish what metals were coming in, where did they come from.

The amazing thing they found was that on Saturday and Sunday metals kept coming in in the same quantities. They came in during the week when all the industry was closed which led to the further investigation of where does all this metal come from and it apparently does indeed come from household commercial establishments, things of that nature which are totally unregulated and for the most part are unregulatable. I don't know how you are going to get around that.

You used the words, "zero discharge," here a minute ago and it was said that it is a technical—it is not impossible. It can be done, but the cost is enormous. As you take one metal out of the water, you add some other chemical component to get the metal out and you end up with basically brine. And unless you put in a desalination plant, you can't get around that. There is no way and you must discharge this water.

Mr. ZELIFF. I would think that the Chamber's attitude representing smaller businesses, I think some larger companies can afford the technology investment, but what about the little guy? Do they just go out of business?

Mr. NORWINE. Yes, they do. EPA originally in 1972, with the establishment of the Clean Water Act, and in 1981, with the establishment of the present effluent guidelines, estimated 40 percent of our industry would indeed go out of business. We are now at 36 percent. Thirty-six percent of the metal-finishers in America have already gone out of business as a result of difficulty of complying with the Clean Water Act.

We have to be very careful about this tiny and fragile industry as there is not one piece of metal on our persons or in this room that did not pass through a plating plant somewhere. It is absolutely essential.

Mr. ZELIFF. Thank you.

Thank you, Mr. Chairman.

Mr. APPLIGATE. Thank you, Mr. Zeliff.

Mr. Clinger.

Mr. CLINGER. Thank you, Mr. Chairman. I thank the panel for your contributions to what is a very thorny problem for us to grapple with here, the reauthorization of the Clean Water Act.

Another problem we are grappling with is we are attempting, again, to consider the question of whether the EPA should be elevated to cabinet level status and the Senate has dealt with that in recent days. One of the amendments that was attached to the Senate version which is causing some heartburn in some quarters is the provision that would say that risk assessment should be a part of any consideration before regulations are issued.

In other words, you would have to assess what risks are involved.

I would be interested in the view of whoever wants to address it as to what is the role of risk assessment in water policy? Is it something that should be a part of that? Is it something that should not be considered, should be out of the mix? How do we incorporate that if it should be incorporated in shaping water policy?

Mr. CAMPBELL. I will take a stab at that one. As I mentioned before, we have a level of technology-based control. We have got varying levels of water quality-based control and as we start to get more sophisticated in our analysis of the environment and its condition and try to improve it, we are reaching the law of diminishing returns. I think we have to focus on what the highest risks are with our limited resource base in this country. It is an international competition issue and we support focusing on the real risks and more targeted approaches.

I think Administrator Browner pointed that out in her testimony before this subcommittee. Targeted approaches dealing with real risk issues down to the local and regional areas is where we think we ought to be going.

Mr. MARSHALL. Risk assessment has utility first in prioritizing, as you point out, as well as comparing options. I think that we go too far, however, to build an absolute quality around risk. We tend to want to fix it at some particular point. I think that is a misuse of risk assessment. It is far, far more useful for comparing courses of action.

Mr. HACKMANN. If I could, one thing I would like to add to the discussion of risk assessment is conceptually we certainly support it. No question about that, but it is also vitally important just how the assessment is done. One of the things I have encountered in a lot of different environmental laws and interpretations of rules is that the pyramiding of one conservative assumption on top of another where maybe each individual assumption sounds reasonably straightforward, but when they are all sequenced out you have got risk margins, risk protection levels that are wholly out of sync with the underlying risk and impose enormous costs in order to guard against that computed risk.

We see it in Superfund and in some other areas so not only is it important that there be risk assessment, but that it incorporate plain English, common sense kinds of assumptions about what is the nature of the risk.

Mr. CLINGER. I see some real merit in that and I think that prioritizing for purposes of addressing the problems is clearly important. I think the objection that was raised by EPA to the amendment on the Senate side was that this was saying before you issue any regulations you would have to do an assessment of the risks before you can put that regulation out and they claimed that would be very disruptive of the regulatory process.

Do you think that is right?

Mr. HACKMANN. It may slow down the regulatory process, but I think from our perspective we would like to see in at least some rule-making a more clear-cut statement of why is this rule being put forward and just what is it that it is really going to guard against, and why does guarding against that make sense? I am not trying to be argumentative with EPA.

We share many common goals in the Clean Water Act process, but the storm water process is a good example of the complexity building on itself to the point where small businesses are just going to have tremendous burdens with these new rules.

Mr. CLINGER. I agree. Yes?

Mr. SILLIMAN. If I could make just an additional comment on that, the metals issue which I brought up in my testimony is a very good example of where you start with laboratory data and then you go down the chain of additional conservative assumptions as those get applied first to create what are called the water quality standards and then ultimately result in permit limits. And, again, there has to be a proper assessment of the real risk because we can measure at lower and lower levels parts per billion and trillion the costs skyrocket to meet that, and there are several levels that are safe and truly we should put our resources somewhere else.

Mr. CLINGER. I agree.

Thank you, Mr. Chairman.

Mr. APPELEGATE. Thank you Mr. Clinger.

Mr. Horn.

Mr. HORN. Thank you, Mr. Chairman.

Some of you mentioned market-based approaches as one solution. I wondered how all of you feel on market-based approaches and do you think they can be administered by a government agency, and does the role of taxes or fees have any place in market-based approaches as far as you are concerned? Why don't we just go down the line rapidly?

Mr. CAMPBELL. Well, I will speak to that. The taxes and fees, we think those are disincentives. We think of incentives more as tax credits, mission reduction banking approaches, flexibility, maybe accelerated appreciation schedules and of extended permit length compliance schedules. Those are the types of innovative approaches and incentives we would approach.

Mr. HORN. Where is the best success story you know of where that is working right now? Any State approaching it?

Mr. CAMPBELL. I don't have an answer for that.

Mr. HACKMANN. The one I would know emanates as the best success story is the reclaim program out in the south coast with the air pollutant trading to facilitate growth of the industrial expansion and reduction over time on emissions. I think one of the big conceptual issues with regard to fees or taxes versus regulations is that oftentimes we start with one and then add the other, and I think from a conceptual standpoint, we should make a policy decision of which way do we want to go so that we are not putting one type of program on top of another. But I strongly favor the trading and the market-based kinds of concepts because they give greater flexibility; the same, in fact, generally at a much lower cost.

Mr. BATCHELDER. Just due to the nature and spread of our business I don't see it would come into play in our industry and I would have no comment to offer.

Mr. SILLIMAN. I think on the issue of market-based approaches, our industry does not have a lot of experience with that, but intuitively it makes sense because if you stay a watershed area it allows the various people in that watershed to essentially trade off for the one that can most effectively reduce pollution levels and then establish a market value and trade those off, but it certainly intuitively makes sense, and I agree with the other comments as regards fees and so on.

Mr. HORN. Mr. Marshall.

Mr. MARSHALL. Our conduct is already governed by technology-based standards, by water quality standards and I think there is a temptation to impose a fee to drive that even farther. And for no sound environmental reason. I think there is a temptation to use fees as a revenue-raising venture unrelated to any environmental benefit associated with it. I think certainly there may be some merit depending on the structure and magnitude and caps and what have you in the use of fees for administering a permit program, for example. I think to go beyond that it would be clearly misbased.

Mr. HORN. Mr. Stein.

Mr. STEIN. With respect to fees, I think we would just say that environmental standards really should be based on environmental impacts. Fees and taxes may result in overcontrol in some situations and undercontrol in others. We would be supportive of the current approach of using environmental impact data to establish reasonable standards and then providing the flexibility to the dischargers as to how they would reach those.

Mr. HORN. Mr. Norwine, do you want to add anything to this?

Mr. NORWINE. No, I don't.

Mr. HORN. Mr. Campbell.

Mr. CAMPBELL. No, I spoke first.

Mr. HORN. Thank you.

Mr. APPLGATE. Thank you, Mr. Horn.

Mr. Gilchrest.

Mr. GILCHREST. Thank you, Mr. Chairman.

I would like to address my question to Mr. Hackmann and Mr. Norwine. First of all, I am going to start using baking soda to brush my teeth after your comment.

Mr. NORWINE. Good.

Mr. GILCHREST. Do you make baking soda? You both made comments during your testimony and during answering questions about nonpoint source pollution and wetlands regulations and the criteria to delineate wetlands and things of that nature.

From your comments, I would like you to comment on this question dealing with wetlands. We are looking at wetlands from a whole range of perspectives, one of which and I agree with you, a watershed approach.

Now, if we look at wetlands from a watershed approach, and we take into consideration the problem of nonpoint source pollution, should we then also take—and given the problem with toothpaste and soap and things like that that are flushed down the toilets and into or wherever they go, should we then also take into serious consideration managed growth as far as any watershed management plan is concerned and as far as any wetlands approach is concerned?

It might seem unrelated, but it does seem to me possible and logical that if you have during the week a certain amount of pollution getting into the system and when all the businesses are closed, the same amount or an equal amount of pollution getting into the system. Have we reached the stage of our development understanding that more population means more pollution?

In the Chesapeake Bay, where I am from, 90 percent of the nitrogen overload in the Chesapeake Bay is coming from the air pollu-

tion and 60 percent of that pollution comes from cars. Do we have to put into the equation any approach to wetlands, any approach to nonpoint source pollution, any approach to this problem at all, and understanding of what population does to a region? And do we have to consider the difficult task of understanding managed growth?

Mr. HACKMANN. I think your comments illustrate the problem. I was thinking of the Chesapeake Bay situation as you were raising your question. Without a doubt, population impacts and land use impacts can effect these factors. And from the wetlands perspective, I think we are in a situation where the real tread line is there won't be any more development on the wetlands, certainly not the kind of development we have seen historically. So from that perspective, I think the regulatory structure we have got will keep it from getting worse.

From the standpoint of what is sustainable population of a particular region and how should government work together to trade that off against other things, I would like to see that from my perspective and experience first by a local government issue and only as a last resort become a Federal Government issue.

Because questions of life-style and choice and how people want to live are very difficult ones to regulate from afar, but I think you are seeing the same thing in Los Angeles right now with the components of trying to have employers locate their businesses closer to where their manufacturing facilities are, they are trying to address these.

I don't have any good answer, as I said, but I will be happy to share some thoughts after the session.

Mr. GILCHREST. I think this element needs to be taken into consideration, the element of open space. The Chesapeake Bay region, there is a lot of economic activity as a result of the bay.

Mr. HACKMANN. Absolutely.

Mr. GILCHREST. And if you happen to be a commercial water man, which I understand is a fairly small part of the economy. Recreational activities are an enormous part of the economy. The key from talking to a lot of people to the solution, I will just throw this out, it is close to off color, but I think we can.

An older water man told me that the man that should be given the award for solving pollution problems is the man that invented the birth control pill, and he is a water man. He says the only problem in Chesapeake Bay right now is water quality, as far as making the bay productive. And these are, I guess—these are just things that need to be talked about in the context of this whole topic.

Mr. HACKMANN. I agree.

Mr. GILCHREST. Thank you.

Mr. APPLEGATE. Now, that was all right, Wayne.

Mr. Hamburg.

Mr. HAMBURG. Thank you, Mr. Chairman. I just had one particular question of Mr. Norwine and then a couple of more general questions.

Mr. Norwine, you talked about the process for recovery and reuse of excess metals in the plating operations from sludge. I just wondered if you could elaborate on how long those kinds of techniques

have been in use and if those are widespread techniques at this point. Just a little more information on that.

Mr. NORWINE. You are definitely going to run over time. Pollution prevention is something that has been carried out in the metal finishing industry for a long time. We didn't call it pollution prevention because that particular phrase wasn't popular.

When we started to get ourselves into compliance a decade ago, it was found that, hey, we are doing some wasteful things and maybe we shouldn't do it that way anymore. And there are two paths that are followed on reclamation and recovery.

One path is to do it yourself in your own plant. Keep the metals in the plating tank, recover as much as you can and put it back where it goes. The other part of the reclamation really falls under RCRA, and we can really expand this one.

Most of the metals that are produced by our industry as water treatment residuals are presently being encased in concrete, put in the ground, and lost forever, which we say is the most monstrous waste in the Nation. Those are available for recovery and they should be recovered.

The techniques for doing these things have been around for at least a decade. Some of the things that are spoken about rather than loosely like ion exchange and zero discharge and reverse osmosis, get to be very expensive. And in all cases where we talk about zero discharge, the problem gets to be that we can get the metal out of the water.

Now we have got real super clean water, but now we have a bucket of concentrated stuff, what do you do with that? So we are back where we started. We have created a waste and it doesn't matter how you do it. You are going to end up with a waste because metals cannot be destroyed. They can be transformed and moved around, but you can't get rid of them. They are ubiquitous and part of our environment.

Mr. HAMBURG. Thank you. I was particularly interested, Mr. Stein, in the testimony from you and from Anheuser-Busch. I had a chance to tour the large Anheuser-Busch plant that is in the southern part of my district, Mr. Stein. And I was very impressed with the efforts that are going on there.

I realize that a lot of those efforts are things that the company has done to get out ahead of law and several of you have spoken about the voluntary compliance and tax incentives and various ways to sort of use the carrot instead of stick.

I wonder if there are—Mr. Stein, if you could speak to the things A&B is doing or specific examples, particularly where voluntary efforts, on the part of industry are being effective and where we can look to the leadership of industry to take care of some of these problems before they arise.

Mr. STEIN. We have had a voluntary pollution prevention program in our beer company for the last three years and we have made some significant achievements by empowering our employees to look at their workplaces and use their specialized knowledge around where they work to come up with ideas for liquid waste reduction.

We have made major strides in water conservation which translates directly into the amount of water that goes into wastewater.

We have also made tremendous reductions in the amount of solid waste that goes to landfills by using that approach.

We see that as the real method of the future, is to use total quality concepts to unlock the power of the employees and the other people in the organization to bring about these improvements on a voluntary basis.

Mr. HAMBURG. Anyone else.

Mr. MARSHALL. I might also address to you the success EPA has had with their 33-50 toxic substances program. I think that has been a very real effort.

Mr. HAMBURG. Any others like to comment.

Mr. SILLIMAN. I would like to echo that because within my company, we signed on for the 33-50 program, which is against a base year of 1988, and we have already made a 99 percent. The actual goal was for 30 percent to 50 percent and was strictly voluntary, and we pushed that company-wide.

Mr. CAMPBELL. I would like to point out for the chemical industry, we have the Responsible Care program which has six management codes. One of those is a pollution prevention code in which we are trying to sustain ongoing and long-term reductions in emissions. I think that has been very successful.

Over the last four years, as measured by the TRI database, EPA's TRI database, we have seen close to a 40 percent reduction in waste emitted.

Mr. HAMBURG. Well. Thank you, Mr. Chairman.

I just want to comment that I think that, to the extent that industry can be out ahead of the curve, it is really especially helpful. I saw that at A&B and I was very impressed. I don't really know too much about what the rest of you are doing, but if you are using that kind of an example, I think it is a good one.

Mr. APPELEGATE. Thank you, Mr. Hamburg.

Mr. Quinn.

Mr. QUINN. Thank you, Mr. Chairman, Mr. Boehlert. And I thank the gentlemen for their testimony this morning.

Before I came up here to the Congress, I was a local official in western New York, and I am a firm believer in this flexibility that you've talked about. Indeed we have heard over the last few weeks here a wide variety of testimony on local flexibility.

Mr. Campbell, in your statement you talk about the fact that pollution prevention is not a one-size-fits-all proposition. I think you are right on target with that. Just one brief question, if I may, Mr. Campbell. And your testimony was very, very helpful to me.

You talk about promoting cross-media pollution prevention. Can you further explain that concept?

Mr. CAMPBELL. Well, as you know, when we go back into the process and look at pollution reduction opportunities, it involves possible emissions to the air, water, and waste. When you don't just focus on the Clean Water Act discharges, you look at it more holistically. We look for programs that will tackle issues that will reduce waste going to each of those medias.

Mr. QUINN. I thought you were talking about median pollution. I wasn't sure.

Mr. CAMPBELL. We have a lot of that.

Mr. QUINN. Thank you, Mr. Chairman.

Mr. APPLEGATE. Thank you very much, Mr. Quinn.

It looks like we have pretty much completed this and I appreciate all of your statements. I would just sort of zero in on what Mr. Zeliff said earlier about how clean is clean, and of course the technology that keeps finding ways to determine just how clean is, is advancing far beyond our abilities to be able to find the methods and the money to be able to set the standards, and it is making it very difficult.

I was going to ask Mr. Norwine just, you were talking about what do you do with the residue that is left after this is done? You have the pure, clean water and you have this bunch of gunk over here. Can they incinerate that? We have got a brand-new incinerator in my district, eastern Ohio, and it is looking for business.

Mr. NORWINE. Almost all of the waste coming from a metal finishing shop is inorganic and doesn't incinerate very well. It has zero Btu value. There is no point. You put a chunk of metal in here and you get a chunk of metal at the bottom.

Mr. APPLEGATE. Right, I understand that.

Mr. NORWINE. When I said that business about leaving some residue behind, typically, reverse osmosis, if what we are going to do is discharge really clean water. You can run it through a reverse osmosis system, that is great. If you got 20,000 gallons of water, it is going to reject about 15 or 20 percent of it and you are going to end up with 4,000 gallons of concentrated material and you are going to discharge medical grade water. You might as well use the water over.

Now, we have got a concentrated solution of 4,000 gallons. What are we going to do with that every single day? That is the problem.

Mr. APPLEGATE. Well. I thank you very much. Thank you very, very much for your input. It has been very educational. I think you have approached some new areas that we really haven't gotten into so much in depth and it may be that we will have some additional questions that we may get out to you and we look forward to receiving answers from you.

But in any event, I am sure we will be talking with you after we see just exactly what direction we are going to take. So thank you very much for being here.

Our second panel—and if you would please come to the table—we have the National League of Cities represented by Jeff Wennberg; Northeast Ohio Regional Sewer District, William Schatz; and National Association of Regional Councils, Steven Arndt.

Okay. Thank you very much. We welcome you before the committee as we nearly complete our series of hearings. Mr. Wennberg, we will begin with you. I should address you as Mayor Wennberg.

**TESTIMONY OF HON. JEFFREY WENNBERG, MAYOR, RUTLAND, VT, ON BEHALF OF THE NATIONAL LEAGUE OF CITIES; WILLIAM B. SCHATZ, GENERAL COUNSEL, NORTHEAST OHIO REGIONAL SEWER DISTRICT; AND STEVEN M. ARNDT, CHAIRMAN, TOLEDO METROPOLITAN AREA COUNCIL OF GOVERNMENTS, ON BEHALF OF THE NATIONAL ASSOCIATION OF REGIONAL COUNCILS**

Mr. WENNBERG. Thank you, Mr. Chairman, and Members of the subcommittee.

I am Jeff Wennberg, Mayor of Rutland, Vermont, and Vice Chair of the National League of Cities' Energy, Environment and Natural Resources Committee. My testimony on behalf of NLC and the 16,000 American cities and towns we represent, will speak to those Clean Water Act issues which are of greatest importance to municipalities.

Over the past 20 years, this committee has provided a significant Federal financial commitment to help us attain secondary treatment. This is the main reason why we have made major strides in restoring our rivers and streams, unquestionably the most significant national environmental achievement of the last two decades.

But now we live in a different era, an era of scarce resources for all levels of government. Current Federal requirements are overwhelming the ante of local governments to comply with the law. Yet the reconciliation instructions are clear, there will be less Federal assistance, not more, regardless of authorization levels.

We believe, therefore, we have a mutual responsibility to manage with what we have. Local Governments must be assured that no new responsibilities for liabilities will be imposed by this committee or any other until we have resolved what is already before us.

The trend of unfunded mandates must cease. From the perspective of municipalities, a Clean Water Act reauthorization must, first of all, clarify congressional intent and revise the stormwater management program. It must address the requirements for combined sewer overflows. It must clarify Federal wetlands policies. And it must continue a Federal financial commitment to municipalities to implement the Clean Water Act mandates.

Regarding stormwater, normally it would be senseless for Congress to codify specific requirements for program implementation into the law. Unfortunately, when it comes to stormwater, we believe that you really have no other choice. The 1987 amendments for stormwater requirements occupy less than one page in the statute. It seems fairly straightforward-implement best management practices to the maximum extent practicable.

However EPA's regulations far exceed this standard. When this committee acted last year to delay implementation of the stormwater program for smaller communities, we applauded. But as I am sure you recognize, that action was only a place-holding stopgap. The whole issue of managing urban stormwater runoff for all cities must still be revisited.

Put directly, we seek a legislative prohibition on requirements for end of pipe standards. It is unreasonable for the Federal Government to force municipalities to accomplish what no one knows how to do at a price that no one can afford. If the NPDES program

cannot be amended to accommodate a lesser standard, a whole new stormwater management program should be established.

Regarding combined sewer overflows, EPA has taken significant positive steps in addressing the problems of combined sewers in their recently announced guidance. We seek added flexibility for the use of alternative technologies by smaller cities and towns.

According to EPA, over half of the communities with combined sewers have populations below 5,000. It is unrealistic to expect these small communities to pay for expensive studies or facility construction. We would prefer to see the Clean Water Act allow small CSOs at their option to use innovative alternatives to high costs and potentially high risk technologies.

Regarding wetlands, most of all municipalities need a consistent policy on wetlands. The national policy should recognize the value of economic and physical development as well as the need for environmental protection.

Our criteria for rational wetland policy are to allow development where wetlands are of marginal value to prevent development where they are irreplaceable, to provide compensatory mission where wetlands are of highest quality, and to forgo mitigation where they are abundant.

Even with the changes listed above, municipal compliance will require Federal loans and grants. We face in excess of \$300 billion in unfunded Clean Water Act mandates alone. Without some combination of repayable loans—and the operative loan is repayable—and grants, it is unlikely that municipalities will be able to comply with these mandates. And it is truly need to use any available funding for the Clean Water Act mandates.

Finally, while it is not NLC, you might consider capping expenditures at some percentage of household income. The Clean Water Act, the Safe Drinking Water Act, other Federal mandates could be prioritized and applied against a total of household income until the limit is reached. Mandates not completed by the affordability priorities, would be deferred, waived, or eligible for 100 percent grants.

Mr. Chairman and members of the subcommittee, I want to thank you again for the opportunity to present the views of the National League of Cities and I will be happy to answer questions.

Mr. APPLEGATE. Okay. Thank you very much, mayor. I appreciate that.

Mr. Schatz.

Mr. SCHATZ. Mr. Chairman, Members of the committee, I appreciate the opportunity to appear before you today.

My role is somewhat different than usual. Normally I would be here advocating the position of the Association of Metropolitan Sewage Agencies. However, today I come with a specific problem and a specific item that I would ask your consideration for.

The Northeast Ohio Regional Sewer District treats wastewater for the City of Cleveland and 48 communities in the greater Cleveland area. Back in the late 1960s and early 1970s, USEPA had touted a new technology, a physical chemical wastewater treatment process as the technology of the future.

The Northeast Ohio Regional Sewer District was one of the first to embrace in technology and in fact then proceeded to build the

largest physical chemical treatment works in the United States. The total cost of upgrading this facility was approximately \$120 million. This technology, as we discovered through the 1980s, was flawed and it prohibited the district from meeting its NPDES requirements.

In the late 1980s, the district made a determination that, given the flawed technology that must go forward, convert the facility into a conventional biological treatment works and has proceeded to do so. The district has completed its first contract, that is of site preparation. It has let three additional contracts to go forward with the rehabilitation and conversion of that facility.

The cost of the conversion of the physical chemical part of the treatment works to a convention that biological facility is approximately \$35 million. To add insult to injury, USEPA then commenced an enforcement case against the district seeking some \$35 million in civil penalties for ongoing violations of the district's permit, particularly the permit requirement for BOD.

The third insult was the setting aside by USEPA auditors of the construction grants that the district received to upgrade that portion of the facility and convert it into the physical chemical treatment process over the years.

Had there been an innovative or alternative program when the district received its grants, arguably, then the district could have gone back to USEPA and sought assistance in the rehabilitation and changeover of the facility into a conventional biological treatment works. However, since the construction grants were received prior to the INA provisions of the Clean Water Act, this was not possible.

We appear today solely to request your assistance in recognizing that there should be an authorization and there should be some level of funding provided initially and thereafter because of this mistake that was made. This was technology that was not initially accepted by the district. It was technology that was accepted by its predecessor, the City of Cleveland.

When the district came into existence in 1972, it did embrace the representations of USEPA. Now USEPA disavows any responsibility for this travesty and we believe that it is fundamentally unfair to the citizens of Northeast Ohio for this to continue.

I would be prepared to answer any questions that you may have today and I appreciate again, Mr. Chairman, and Members, the opportunity to appear before you today.

Mr. APPLGATE. Thank you, Mr. Schatz.

Mr. Arndt.

Mr. ARNDT. Thank you. Good morning, Mr. Chairman, members of the committee, and staff.

I am Steve Arndt and this morning I am here on behalf of the National Association of Regional Councils, NARC, and the NARC Advocacy Service Group. NARC represents over 500 regional councils across the country. The Environmental Service Group is the advocacy carrying arm of the regional councils most directly affected by water and environmental legislation.

A list of Members is included in the gold portfolio of information that you received from NARC. I certainly hope you have received this document.

In the packet you will see a copy of "Accomplishments in Regional Water Resources Management, Success Stories of Regional Councils," a compilation of approaches our regional councils have taken to deal with a variety of water resource issues.

Mr. Chairman, I would ask that the packet of information, including the National Association of Regional Councils' policy suggestions be entered into the record along with my testimony. Thank you.

Mr. APPLIGATE. Yes.

Mr. ARNDT. As chairman of Toledo Metropolitan Area Council of Governments and an Ottawa County Commissioner, I am also speaking on behalf of the Northwest Ohio and Western Lake Erie water issues. On behalf of all those that I am representing today, I would like to thank you for asking us to provide our views on water resource issues, especially as they relate to the reauthorization of the Clean Water Act.

As a county official, I feel it is very important that at a local level we have an important role to play in the Clean Water Act. I would like to tell you a little bit about my background and be somewhat frank as one elected official to another.

Five years ago, my first trip to Washington was to secure additional funding for an EPA mandated sewer project in my county. My county has a population of about 40,000. In the summer months, in just two townships, our population increased 70 percent. We are a highly recreational, fishing, tourist-related area, and we swelled to a population of about 250,000. That is primarily, as you can see, all located within two townships. We had 68 percent well contamination that was primarily caused by failed on-lot septic systems.

It was also caused by a number of package treatment plants, 49 in total, which were all privately owned and operated in residential areas. Both of those townships now have wastewater treatment plants. Both of those are totally residential in nature, other than the obvious commercial related for fishing industry.

I will get into that horror story a little bit farther down in my presentation. NARC has 10 areas that are outlined in our testimony, because as an elected official, we certainly agree with all those points. And we have heard some testimony today about having the local level being able to incorporate, as needed, policies and regulating their land use plan basin-wide approaches for wastewater and the like.

The reason why I want to mention those is because the last time we were down here, we were in the Catch-22. We did receive 55 percent grant funding for our Portage and Catawba Sewage Project. That particular project is rated number one in the State. Without that Federal funding, we would never have been able to build that project.

But unfortunately, we had Federal funding that we were trying to secure as low interest loans from Farmers Home that also said you cannot exceed a level of your monthly user fee because it is not affordable, yet you have EPA saying you must install or we will issue findings and orders in as a small county.

In the last decade, we have spent over \$68 million installing wastewater treatment systems. That is more than the county has

spent in that same period for its entire county operations. We certainly have and will continue to have clean water as our priority.

One of the most frustrating things that we continue to see is that EPA issues the permits to install for package treatment plants to the private sector. In a seasonal and recreational area such as Ottawa County, those package plants simply do not function.

With the ever-changing flow, it is impossible to meet their NPDES permit, which brings up another nice issue. EPA does not issue NPDES permits or require testing from the private sector. If it was owned by the public sector, it certainly would. They continue to issue those, even though our land use plan has shown that they do not work and we have turned them down in a regional planning, later only to recreate the same problem we spent \$68 million trying to solve.

We heard a little bit about testing of not only heavy metals, but dechlorination now. Grease and oil removal. One of our sewers is a lagoon type system. We have no industry, as I mentioned before, and it is what is frustrating that local elected official, to be focusing dollars to not only dechlorinate and test for heavy metals which we know are only there from our drinking water and to remove the oil and grease when in that same sewage district we have untreated sewage from failed systems, septic systems and package treatment plants going to our streams.

It just seems ludicrous, as far as we are concerned, as far as cost-effectiveness, as whether we should be putting our money for dechlorination or for expanding our collection system.

One final point, on the basin approach. I have already mentioned that Ottawa County has spent \$68 million. We are in the top five recreational spots in the country. Right along our city beach in the City of Port Clinton where we have all our tourists coming in, we have over six cities—six counties, five cities and 25 villages that are into that Portage River Basin.

We only have control over what is in Ottawa County and it is a little bit infuriating for us to sit there and see our city beaches closed because we have not addressed that on a basin-wide basis.

I am somewhat emotional because this has been very near and dear to me, and it really is frustrating when we see we do not have the interagency or intraagency relationship with EPA and our local officials and land use planning in the basin.

I thank you for your time. I certainly hope that I can answer any particular questions that you have later. I have cards, if you would like to go into some of these horror stories that we have in the past.

I thank you.

Mr. APPLGATE. I thank you, and I can understand how you can get a little bit emotional. We have people who do, either before or not before the committee, because there are a lot of horror stories.

Mr. Schatz, in talking about your particular issue and knowing the problem that you have up there, and from our good mutual friend, Dick Sullivan, who keeps me informed on a lot of things. You are in litigation on this, as I understand.

Mr. SCHATZ. Yes, we are, Mr. Chairman. We were sued by USEPA with an enforcement case. We also have a third-party complaint that we filed against the designer.

Mr. APPELGATE. What is the status of this at this point?

Mr. SCHATZ. We are still in discovery. The litigation was filed, I believe, September or October. We are coming up on three years. We have not had a significant pretrial as of this point in time. We have our first pretrial, I believe, scheduled in about another three weeks. We literally have probably a ton of motions, and discovery requests, and motions to suppress, and all of the things that are filed in complex litigation.

Mr. APPELGATE. What are you asking?

Mr. SCHATZ. In terms of our complaint against the designer?

Mr. APPELGATE. Yes.

Mr. SCHATZ. We are seeking to recover a certain level of funding for their failure to identify and recognize during the mid-1980s that the process was flawed. And therefore, we are seeking a sum certain from them of approximately \$25 billion.

Mr. APPELGATE. And the EPA has pushed you toward this? And do you—but you had no—you have not come back to the EPA; is that correct?

Mr. SCHATZ. Well, since the Clean Water Act provides essentially for strict liability, I mean, we can't deny the plant is out of compliance with its permit. So, therefore, we essentially have answered USEPA by saying, yes, the plant is out of compliance, but as one of our affirmative defenses against USEPA, we have said you are part of the problem.

The reason that we went forward and spent all this money and accepted some level of construction grants is because you touted the process along with the engineer who we argue at some point in time should have realized that these plants across the country were not working and would not have met permit.

And our legal position with the engineer really applies to going into the 1980s and us spending additional sums of money to repair and replace some equipment that we had problems with rather than going back to the selection of the original process.

Mr. APPELGATE. What is it you think the committee can do to assist you in your particular problem or as maybe a general answer to anticipated problems?

Mr. SCHATZ. We are seeking three things. First of all, an authorization. Secondly, we are seeking some level of funding initially. And thirdly, we are seeking some assistance in the legislation providing us some comfort with USEPA in their enforcement case against us.

Mr. APPELGATE. When you are talking you are seeking dollars and cents, what kind of dollars and cents are you talking about?

Mr. SCHATZ. Our overall request is for \$35 million, which we believe is the total cost to correct the problem that was there through the selection process of the physical chemical process and we have suggested an appropriate level of funding initially would be \$12 million.

Mr. APPELGATE. My time is up, and I would yield to my good friend, Mr. Boehlert.

Mr. BOEHLERT. Mr. Schatz, was the project in question, was that under the construction grant program?

Mr. SCHATZ. Yes, it was.

Mr. BOEHLERT. Well, counsel was just advising me he has a better memory than I do that EPA at one time had a program that, if you used innovative alternative technology—was this considered that?

Mr. SCHATZ. No. The grants received for this particular project were received prior to the innovative or alternative provisions of the Clean Water Act.

Mr. BOEHLERT. That wouldn't apply here?

Mr. SCHATZ. That is correct. We did receive one grant for an INA project that related to the use of ozone in the process. That is not included within our request.

Mr. BOEHLERT. Because under that program, if you used the innovative and alternative technology and it didn't work, the EPA would step in and make you whole.

Mr. SCHATZ. The underlying problem with the end of the construction grants process EPA says we don't have any money to fund the INA portion, in any event.

Mr. BOEHLERT. I have a question for the mayor. You speak for your association and strongly advocate a grant program. Some of us think that the loan program stretches the buck a lot farther and helps a lot more communities.

Are you familiar at all with the principal subsidy approach that has been suggested?

Mr. WENBERG. No.

Mr. BOEHLERT. Let me tell you a little bit about it. I am a former county executive, elected county executive in New York, so believe me, I know the problems of local government. And the mandates really are very difficult to address and I understand that, mandates without the resources.

But under the principal subsidy program, we would continue to fund—and I think we have to fund—at a much larger level the State revolving funds, and then the individual States would have some flexibility in using those funds. They could subsidize the interest rate, lower interest rate or no interest rate, or in those exceptional cases where the community is just hard pressed and a loan isn't good enough for even a low interest loan, the State would have the authority to use funding to subsidize the principal or, in effect, a rose is a rose.

In effect, this is some form of a grant program. Would you find that acceptable?

Mr. WENBERG. Well, I think it is an improvement over a straight loan program. The problem with the loan is there are several problems with it. First of all, I want to make it very clear that we don't oppose the SRF program. We just don't think it is enough and it has limitations.

And one of the big limitations is that the communities that are best able to qualify, that have the best credit, the best able to qualify for a loan, are the ones that are obviously best able to pay it back and probably least in need for the funding, are lower in need of the funding as those that are unable or least likely to be qualify for the loan.

So you have got a problem where the funding mechanism discriminates against those who need the funding and probably have done less in terms of water quality protection than many of the

other communities that have been making those investments over the years because they have had the resources to do so.

Mr. BOEHLERT. Are you telling that story to the State capital because, really, you know, we don't regulate the SRF. We don't set the terms of the SRF, the individual States that administer the program do.

Mr. WENBERG. I understand that, but the concern is that the general, basic nature of a loan does not meet all the needs of a community, especially those that have the biggest job to do and have the fewest resources to address it. The problem with the loan as the sole means of funding these projects is that it has to be repaid.

There is a need for both a loan, especially in those communities that have the ability. In my little example that I gave, if you wanted to set some kind of a limit or a cap on a median household income or something like that in the community, then the loan would be used and whatever that does to your rate structure or fee structure would fit within that cap.

If you reach that cap, which in many communities, any reasonable cap you would come up with, you probably already surpassed. A loan essentially doesn't do any good. Even if you are able to secure the funds, they don't have the financial capacity to repay.

Mr. BOEHLERT. I appreciate that. I am very much concerned about that and some jurisdictions around the country are less endowed compared to others, and I think they have real legitimate needs we have to address. That is why I find very attractive the principal subsidy concept.

Mr. WENBERG. It is a step in the right direction, but it would depend on how the States chose to implement it.

Mr. BOEHLERT. At the risk of sounding too Republican—and I happen to be a liberal Republican, and I don't run away from that word—we do have what is called a \$4 trillion national debt which means we are spending \$900 million a day in interest on the national debt which leads me to the Rural Development Administration.

We are spending \$900 million a day in interest on the debt. They have \$900 million for their grant program, you are familiar with that, I hope?

Mr. WENBERG. Congressman, I very much appreciate and am very sensitive to that issue as well. We however, at the local level, don't have the same accountants you have, so we don't have the ability nor should we nor do we seek it to finance projects with revolving debt. What we have to do is we have to find the money.

Mr. BOEHLERT. I am not apologizing for the operation of the Federal Government.

Mr. WENBERG. If the mandate is there, Congressman, we need the help, especially in those communities where the costs are really getting out of line.

Mr. BOEHLERT. I am here to help. You know one of the great lies of all time from the Federal Government? "I am here to help." I appreciate that, but the point is I would urge you and your association to take a good hard look at the principal subsidy program because here is the dilemma we face.

I mean, we are not going to come close to authorizing the funds. We really need to attack the problems simply because we have got all these other competing demands, and as someone who comes from local government, I have been in your position and I am not unmindful of the very difficult circumstances you find yourself in.

So what I am trying to do is fashion a program up here that gets the most money out into the marketplace and covers the most communities in real need. And I am suggesting, if we put money in a grant program that is used one time and we don't recycle it, if we can be a little bit innovative in using the principal subsidy concept in a State like my own of New York, where you have affluent counties like Westchester, they would pay the prevailing interest rate because they can afford it.

You have some less affluent counties, that they can't find two nickels to rub together, and then the State may decide with the SRF to not only not charge any interest, but in effect subsidize the principal. I would like you to think about that, if you will, and let your organization give us some response.

Mr. WENNBERG. We would be happy to respond to that.

Mr. BOEHLERT. Thank you so much. I don't envy you your task, it is very difficult. I applaud you for your willingness to serve.

Mr. ARNDT. Congressman, I think I would have a few additional remarks on that particular question. In my testimony—and I certainly hope you will take the time to read it, because I did completely deviate from it—but what we are proposing is we need to have more local control to prioritize our projects because there are very few funds available.

We just—and I mentioned a little bit about one of our projects. It was a \$38 million project and I can guarantee you as the mayor, a lot of communities just do not have the bonding capability, the one particular project. And we were able to receive one of the last grants from USEPA for 55 percent, which has incorporated that new and alternative and innovative technology.

Had we not received that grant, a \$4 million—it was a \$13 million grant, I believe. We received \$4 million of a low-interest loan from Farmers Home Administration. We received \$1.5 million from our States revolving loan fund and the rest was financed locally.

And here is the problem that the local communities end up in. Farmers Home says we will not lend you the money because your costs are starting to get to the point where it is not affordable for the people. Our monthly obligation for those residents is \$600 a year. Had we not been able to get that grant, a grant one that does not have to be repaid, that user fee would have been \$875.

And we have a court order. Not only did we have EPA forcing us to install this system, to solve the problems from the package plants that they issued the permits to install, we have the residents of the community having us in court. And, in fact, we had to build a courtroom large enough to hold all the appellants during the construction of that project.

And it is on record in court that our monthly user fees cannot exceed the cost of \$600 a year. Not only locally was it not acceptable, but even at the Federal level it was said it was not affordable. We do need some form of grant program in order to share that burden. Obviously, the States have a good role there, but I think we

need to go back to and give more discretion to the local councils of government of prioritizing where these dollars are best going to be spent to receive the best benefit for the majority of the people.

Mr. BOEHLERT. I want to give a lot more flexibility and a lot more control, and I would encourage you to give some consideration to the principal subsidy approach because, once again, and I repeat myself, I think this offers a possible solution for those communities that are so hard-pressed, you just can't ask the people that do not have an ability to pay or even the people that have an ante to pay to go with those exorbitant charges for—I understand.

Thank you very much.

Mr. APPLEGATE. Thank you, Mr. Boehlert.

Mr. Horn.

Mr. HORN. Thank you, Mr. Chairman. You heard the previous panel and we asked about market based approaches. Now, that is often considered unusual when you are talking to a government agency or representatives of government agencies. But a lot of you I know have read or heard of David Osborn's book on Reinventing Government where he went around America for five years and found local governments and local authorities such as the ones you represent doing immensely creative things with a more market-oriented or what we traditionally think of as business-oriented focus.

Do you see any opportunities along that line that maybe ought to be in the law that would provide incentives, provide new approaches for you representing different types of governmental agencies to get the job done in a more effective way?

I just wondered if you had a chance to give any of that a thought because we seem to be talking grants and other loans. Is there something we can talk beyond that that would be helpful to you in any way?

Mr. WENNBERG. I would suggest that you generate the financing from the mandates. And I think the opportunity for local jurisdictions to be creative and innovative in achieving environmental—the priority environmental standards and objectives has got to look at not only the financing of those mandates which the State and the Federal Government place on us, but also the timing, the order, the level of technology employed.

If you give local governments with appropriate oversight from EPA and the States the opportunity to address the priority environmental needs—and I understand this is a problem speaking to a subcommittee which deals with the Clean Water Act and I don't know who it is that deals with Safe Drinking Water, and who it is that deals with RCRA, I have got it listed here, but not here.

I know that you can only deal with those mandates that really are within your jurisdiction. But the entire House of Representatives and the entire national legislature, I think, has a responsibility to recognize that when these requirements, these costs, these mandates finally come together, the first place that happens is when it hits my desk and the second place that happens is when it shows up in the user fee bill.

And if there would be some way to coordinate and provide local governments with a structure to limit the various time lines and so forth to extend deadlines in certain areas in return for compliance in other areas in understanding that there are limited finan-

cial resources, I think you could see some very creative approaches and very successful approaches.

My biggest concern is we could go out four or five years and find that a huge number of local jurisdictions in this Nation will be spending far more money litigating and defending against EPA lawsuits and citizen suits and everything else, rather than spending that money on environmental protection. It is impossible, quite frankly, given many of the schedules and all of those acts that we have today and the limited financial resources that we all have, it is impossible for municipalities across this country to comply.

If we recognize that and provide some kind of a mechanism to be innovative, I think we can work the whole thing together. But this body, as a part of the entire House of Representatives, is going to have to look at the big picture and give us the opportunity to do the same.

Mr. HORN. I would think the National League of Cities, this might be a very worthwhile project if some thinking was done in this area, and you submitted it to the chairman of the subcommittee and shared it with the Members. Maybe some good would come out of all of it.

We have got a time line here, also, in order to get your foot in the door of this and thinking that some of these ways, where flexibility and certain trade-offs might occur. Any other comments from you?

Mr. ARNDT. Congressman, the one project that I was talking about, the Portage and Catawba Sewage Project, with the new and innovative technology, we incorporated a lot of very interesting things. We have one of the only 26 sole source aquifers in that township, so we are constantly looking for new and alternate means of accomplishing the same thing.

And, unfortunately, EPA does not seem as though they have the time or the ability or the staff to evaluate whether or not these new innovative means of trying to accomplish something is acceptable or cost-effective. And obviously they are always looking as cost-effectively as we are, but a lot of times, a lot of good ideas and approaches just don't materialize because of inflexibility of EPA.

We had a sole source aquifer with 63 percent contamination. We were forced to have special pipe manufactured in 40-foot lengths, all plastic pipe wrapped in bentonite clay. The list can go on and on. They call that innovative technology.

I don't think that is what I am looking for, and I don't think that is what you are looking for. But we need to have the flexibility to look at some of those other things, and it certainly was not there either at the local EPA or USEPA.

Mr. HORN. I guess the question we need to ask ourself is, to what degree does the Federal agency have flexibility based on the laws we have written? Is that discretionary authority there? Could they have experimental programs where they try to approach the same problem in different ways and see what happens in terms of all the variables that are involved in human conduct and everything else?

Mr. ARNDT. One of the interesting things in that particular project, I believe we spent close to \$26,000 evaluating what the groundwater condition was before the construction project. No tests or follow-up was done after the project was installed to indeed ver-

ify whether or not those methods were proved cost-effective or even effective for that matter.

Mr. HORN. Well, if you are aware of provisions in the law that you think block that type of flexibility, I wish you would point them out for us and let us know.

Mr. SCHATZ. Mr. Congressman, if I might just briefly respond, because I represent a major metropolitan POTW. One of the major problems that POTWs face is a lack of consistency in terms of what Congress does. And for instance, in our particular situation, we plan to finance most of our new construction through the issuance of bonds. We are able to do that with a very favorable rating.

We have extended about a billion dollars and we have another billion in front of us to pay wherever we go with the control.

The SRF that was established in the State of Ohio, we thought originally was established for the benefit of small communities and we would not see the opportunity to obtain any of those funds. What occurred was that the small communities were unable to do the type of things necessary to go forward with their projects and the SRF funding then became available for us and we have become actually the largest taker of SRF funding in the State of Ohio.

We didn't think that was envisioned by Congress when it was first proposed, however, in the State of California, where there was a significant match in pooling of State resources, and SRF funds, the major metropolitan wastewater agencies there campaigned for the SRF program where we campaigned to try to maintain the grant program. Since we are trying to reach some type of consensus through our association, we ended up advocating the SRF funding.

The next problem is the level of that funding needs to be revisited. Many of us have predicated our programs on what we thought was the deal made back during the Bush administration with Congress as to the level of funding.

We see a decline in that funding now. We see a proposal to put in a drinking water SRF and take additional funds away from wastewater.

There has got to be a resolution, in our opinion, in Congress that there is consistency in whatever program is adopted.

Mr. HORN. A very good point.

Thank you, Mr. Chairman.

Mr. APPELATE. Thank you, Mr. Horn.

Mr. Barcia.

Mr. BARCIA. Thank you very much, Mr. Chairman.

First, I would like to salute your leadership once again on having the vision and foresight to hold hearings on such a vital issue that is before the Congress in terms of the reauthorization of the Clean Water Act and tell you that representing the Fifth District of Michigan, my congressional district encompasses some 700 miles of shoreline, along Lake Huron.

And of course being from the State of Michigan in general, I am very concerned about the quality of our Great Lakes, the world's largest supply of fresh water. And so this act is of particular importance to the Great Lakes Basin and the Great Lakes States, as well as the rest of the country.

I would like to thank the distinguished panel for their comments and sharing their insight with the subcommittee members and say

that I have just two concerns that I would like to mention which perhaps you could respond to. And the first is that I agree with the last gentleman's statement and response to the inquiry from the member regarding combined sewer overflows and urban communities being able to have the resources necessary to prevent discharge of raw sewage, untreated water, and industrial waste into tributaries and to the Great Lakes such as the Saginaw River and Saginaw Bay.

We have one community, the City of Saginaw, which is faced with about a \$75 million cost in terms of upgrading their water treatment and sewage treatment system in their basins to prevent CSOs. We have also a smaller community, the City of Essexville with less than 2,000 residents facing a \$10 million bill to try to prevent their combined sewage overflow problems.

So it is certainly my hope that we will have resources available from the Federal level so that the Federal Government can be a partner with State and local taxpayers in helping us to protect our precious resource, our fresh water supply.

But I have a concern, also, with regard to Farmers Home Administration and their traditional role of being a partner with small rural communities as they attempt to meet the increasing standards for safe drinking water and I know that the Safe Drinking Water Act is before this subcommittee and this full committee.

It is an issue that we will be devoting a lot of time and attention to in the weeks and months ahead. But if you could respond to both the need that communities across the country have for Federal assistance in upgrading their water treatment systems and also comment, if you can, I am not sure if you have the knowledge, and I am just kind of throwing this at you cold without the time to prepare. But could you envision a greater role for Farmers Home Administration in terms of providing assistance to small rural communities that so often lack the technical expertise and, in many cases, the resources to meet the standards for the Safe Drinking Water Act?

Mr. ARNDT. I certainly think that Farmers Home needs to play a much bigger role especially from a rural county. I mentioned I am from a rural county. 40,000, I think, would constitute as a rural county.

The Safe Drinking Water Act and the concerns at least in our particular community, it is sort of interesting you bring that point up, because I just got mentioning how we spent \$68 million in wastewater. We also have on our drawing table right now, a regional water plant and distribution system trying to replace a number of municipalities, water treatment plants that are fairly small in size because they just cannot afford to refinance and upgrade their existing wastewater treatment plants. They just don't even have the bonding capabilities.

So the only one in our particular county that has the bonding ability is Ottawa County and we are looking at a \$100 million project. When I look at Farmers Homes' participation in our past sewer project of only financing a low interest loan of only \$4 million on a \$38 million project, I would certainly hope they could become more of a partner for our small and rural counties, because that would certainly be able to allow those smaller counties, rural

areas, a smaller portion that they have to finance locally, and maybe it would come within their financial reach as far as being able to bond and sell those notes.

Mr. BARCIA. Thank you.

Mr. WENNBERG. Congressman, I very much appreciate you bringing up the issue of the Safe Drinking Water Act because, from our standpoint, from a financial or administrative standpoint, at the local level you can't separate these issues as easily as can be separated among the committees and subcommittees and so forth here.

In fact, the big picture is really only seen from the local level in terms of all the various mandates. The City of Rutland, we are in the process as a result of the mandates in the law, and it is good public policy, we don't oppose it, but the filtration plant would be under construction in a matter of a few months that is roughly \$6 million, very limited Federal and State assistance on that.

We are doing a CSO Phase I project of \$1.5 million under construction now. We have phosphorous removal at our wastewater treatment facilities as required by the State mandate. This is all capital costs, it is \$1 million. And the State of Vermont also has some very peculiar regulations regarding sludge disposal which drive that cost right up through the roof.

The total effect of these things, plus the operating cost that is getting built in on an ongoing basis is over a five-year to six-year period doubling of combined water-sewer bill for the users in our system. As a matter of fact, the rate increase was 18.9 percent, last year 13.8. Next year 13.7.

Believe me, when you pass these rate hikes on live TV in one night with the board of aldermen with 15 percent of your county's ratepayer/voters watching and they are going to catch you on the street the next day, you get a real sensitivity training, in-depth, as to how much people need and ultimately, in fact, can pay.

The need we have—we feel there is a need to look at the big picture here, as well as at our level, and see if we can find a way to coordinate these things so we don't find ourselves in an adversarial position, each community failing to meet certain standards when those deadlines approach.

Mr. BARCIA. Thank you very much.

Mr. APPLGATE. Thank you, Mr. Barcia.

Mrs. Byrne.

Mrs. BYRNE. No questions.

Mr. APPLGATE. Gentlemen. Thanks again. You represented your positions extremely well, and we may be calling upon you to answer some other questions. But we appreciate you being before the committee.

Thank you.

Our final panel will be made up of the American Enterprise Institute, Robert Hahn; and the Water Environment Research Foundation, George Barnes.

And if you would please come to the desk.

Gentlemen. Thank you for being with us this morning, and we will just go right ahead and begin with you, Mr. Hahn.

**TESTIMONY OF ROBERT HAHN, RESIDENT SCHOLAR, AMERICAN ENTERPRISE INSTITUTE; AND GEORGE BARNES, CHAIRMAN, WATER ENVIRONMENT RESEARCH FOUNDATION**

Mr. HAHN. Thank you, Mr. Chairman. And thank you distinguished Members for inviting me here today to testify. I have been asked to convey to you today in five minutes what it might take a semester for students at Harvard to digest and a lunch for some of my colleagues at the American Enterprise Institute.

Nonetheless, being somewhat foolhardy, I will proceed full speed ahead. I have spent over a decade now working on a very simple idea. It is captured in a commercial that most of you have heard which talks about Lite beer, the fact that it is less filling and tastes great.

I have tried to promote environmental proposals that will get you more environmental quality at less cost, a concern that you raised a little bit earlier, Congressman Horn. Specifically, during the Clean Air Act, I worked on the White House drafting team as part of the Council of Economic Advisers. We developed a market-based approach for acid rain that cuts sulfur dioxide in half by 10 million while saving as much as \$1 billion over a conventional mandated approach, which would have required scrubbers.

I have also advocated and would like to submit for the record a similar approach for the Everglades where they are confronting a political logjam. The idea is to break the logjam by setting up a market-based approach where the Government defines the allowable level of pollution and then leaves it to farmers and business to decide how best to achieve environmental goals.

I would like to begin my presentation with a definition of the problem, which is best characterized by a woman question once posed by a great economist from England. Joan Robinson asked: "Why is there litter in the public park, but no litter in my back garden."

I think most of us know the answer. We have a strong incentive to take care of our home and our own backyard, but a natural tendency to say, "let the other person do it" when it comes to taking care of our local park.

I would argue that the same problem arises in managing our water resources because we collectively own most of our major water bodies. Essentially none of us has a very strong incentive to take care of these resources.

The problem for you, as our elected representatives, is basically to change the incentive structure, that is, embark on a new form of regulation that is like Lite beer, less filling and tastes great—gets you more environmental quality at a lower cost.

How do you get there from here? The way you do it is to adopt what we economists call economic approaches for environmental protection and improved management of our water resources.

In addition to adopting new economic approaches for improving water resource management, you need to think about the appropriate goals for public policy. What kind of standards do you want in the Great Lakes? What kind of standards do you want in the Hudson River? I think economists can make constructive contributions to defining water quality goals to both of those and designing innovative methods for achieving these goals.

Let me start with a "favorite" topic, of yours, which is cost-benefit analysis. Is that red light telling me my time is up?

Mr. APPLEGATE. Well, you can go ahead and proceed for a while. Your full statement will be made a part of the record.

Mr. HAHN. Thank you. I will make it brief. The bottom line is that EPA hasn't done the job of cost benefit analysis of water quality standards very well. I urge in my recommendations that you give them a gentle push so that you can assure the public that, when you are developing standards for the Clean Water Act, you are actually increasing the average standard of living of the U.S. consumer.

Let me turn now to the central focus of my talk, which is the idea of introducing market-based approaches in the Clean Water Act. I suggest in my written statement that you have several opportunities to do that.

You can encourage trading between what are called point sources—different industries that are along a river. You can encourage trading for wastes that are going into a treatment plant—that is called pre-treatment trading. You can encourage trading to bring the large number of nonpoint sources into the regulated system. If we don't regulate these sources, we are not going to have substantial improvement in environmental quality in many of our water bodies over the next decade.

You can do many of these market-based approaches now under the current Clean Water Act.

What is really be helpful would be for you to lend support to these ideas. EPA should be encouraged to use market-based approaches unless they can show why command-and-control is better.

I think government knows best how to set broad environmental standards. At the same time, industry, the private sector, and municipalities have the kind of knowledge that will allow you to get there from here in the least expensive way. I think last recommendation in my written statement summarizes my views. It says Congress should insert language in the new Clean Water Act that demonstrates its commitment to the widespread use of marketable permits for improving the quality and economic value of the Nation's water resources.

You have got to get out on the stump and make the case to the American people. You also need to provide incentives for bureaucrats that are not used to behaving in the reinventing government framework.

In conclusion, we have the technical know-how to implement economic approaches for improved water quality and management. The question is quite simply whether we have the political will.

I am optimistic, based on my experiences in Florida and some work that I am doing in Australia with the New South Wales Government. There is going to be greater experimentation with these approaches. My only question is whether Washington will lead the charge or follow.

The reauthorization of the Clean Water Act provides you with a unique opportunity to lead the charge, and I hope you take advantage of that opportunity to benefit the health and welfare of the American public.

Thank you very much.

Mr. APPLGATE. Thank you very much.

Mr. Barnes.

Mr. BARNES. Mr. Chairman and members of the committee, my name is George Barnes and I am Director of the Bureau of Pollution Control for the City of Atlanta, Georgia.

I am here before you today on behalf of the Water Environment Research Foundation in my role as the chairman of the Board of Directors of the Water Environment Research Foundation, specifically to ask for your support of our request for \$2.5 million in funding from the fiscal year 1994 budget.

After being here for several hours and hearing the problems stated by industry and municipalities, I am tempted to just simply say, give us the money and we will help solve these problems. I would like to take a few minutes to highlight the written testimony that we submitted to tell you a little bit about the Research Foundation, the activity that we have going on, and tell you that I think it is important that you do support our request for funding.

The Research Foundation was started in 1989 by professionals who have worked most of their careers to support clean water. And it was started really to fill a gap that many of us saw because the Federal Government abandoned funding research, and also because we were faced with regulations coming from EPA that we found were really not supported by sound scientific research.

The Foundation has grown to its current level of about 150 subscribers which represents municipalities, industry, consultants, and equipment manufacturers. We represent more than 60 million people in this country. We are governed by a board of directors which represents our subscribers. We also have a research council that is made up by leading experts in the field of clean water.

And their role is to help develop the research projects, to set priorities and then to oversee the work.

We are doing research in all the areas that affect clean water, but I would like to highlight a couple to illustrate the benefits of the work that we are doing.

Specifically in the area of residuals management, we have finished the first phase of a research project related to sludge and incinerator emissions. This project was undertaken because those of us who employ this form of sludge disposal were concerned that our operations were safe, that they were protective of human health and the environment.

And also we saw the need to work with EPA so a sound standard could be developed. We were very fortunate in working with EPA and other municipalities on this project. And through its results, we have helped develop, I think, a very good standard EPA established in its sludge regulations. It is an economical standard, it is protective, but it has resulted in a standard that will save us and the other municipalities millions of dollars in fuel costs simply because we have used good science to establish a good regulation.

Another critical area that we are embarking on relates to the Great Lakes initiative. I think this presents an outstanding opportunity for us and everyone that is concerned with clean water to work together to develop good, sound water quality criteria. We were going to solicit funding from municipalities, EPA and industry

to help work on this project, which I think can have nationwide benefits.

In closing, I would like to give you an example of the dilemma that managers like myself face daily. On the one hand, we want to get clean water. On the other hand, we must convince our elected officials and our ratepayers that we need to raise rates to fund capital improvements. So we have a constituency that wants clean water, a risk-free environment. On the other hand, they don't want to pay a lot for that, and they want to be sure that the money they spend is going for good science and for good operation.

So there is an opportunity here through research for us to stand up and confidently say that we are doing programs based on good science and that we are doing it in the most economical way.

In closing, I would encourage you to continue the Federal support of the research foundation. It is a good investment. You are getting a two-for-one return on your dollar, and the great benefit is we are saving money for everybody in this country through the good research we are doing.

Thank you very much for your attention, and I will be glad to answer any questions.

Mr. APPLGATE. Thank you very much, Mr. Barnes.

The only thing I can tell you at this point is we will look at your request, and we appreciate your input and the information that you gave us.

I am sorry that we are trying to limit the time so that we can get everybody in. I know it is very difficult to get all that you want to say into a five-minute package, particularly when you have hours to talk.

It reminds me of the story by Mark Twain when he once wrote a 20-page letter to a friend. At the end he says, I would have sent you a one pager, but I just didn't have the time.

So it makes it very difficult to try to condense that down to get the important points in.

But, Mr. Hahn, let me ask you this. You have brought forward several creative ways to address the water pollution problems, and many of these proposals, I am sure, had at least some vocal support from the Reagan and the Bush administrations, but neither one ever offered anything in the way of a proposal to the Congress. Can you tell me why? With regard—based upon the market—

Mr. HAHN. I don't really have a good response. It is quite clear that President Bush spent a lot of political capital in moving the Clean Air Act and the acid rain amendments forward. Also, credit should go to the late Senator Heinz and Senator Wirth and several other distinguished Members of the Congress.

So I don't see this as a partisan issue. I think people are generally beginning to recognize—

Mr. APPLGATE. It wasn't brought up to be a partisan issue. I am just asking the question because, you know, they support that, but they didn't offer any proposals.

Mr. HAHN. Your point is well taken. But the point I wanted to make is simply that people are recognizing that the old style of regulation has reached the point of diminishing returns, and there may be new opportunities out there if we can think in terms of reinventing government by using market-based approaches.

Mr. APPLEGATE. Mr. Boehlert.

Mr. BOEHLERT. How did you know, Mr. Chairman, I am very enamored with the market-based approach? As you recall, I was very much involved in the Clean Air Act amendments which was a lasting tribute to our departing President. That is not a partisan statement here.

How do you deal with nonpoint source pollution with tradable permits?

Mr. HAHN. The answer is, it is generally difficult to deal with nonpoint sources. But let me give you the Everglades as a concrete example. It so happens that you can measure the phosphorus coming off one farm or several farms at the point at which they pump the water that goes south to the Everglades. So that gives you an ideal opportunity.

Things aren't always that simple, as you very well know, in which case you have to make some rough estimates.

For example, in Australia, I am dealing with a problem. How much credit do you want to give a farmer who puts a fence 50 yards from the stream so his cattle don't wander over to the stream? Well, these are things that you can begin to assess using scientific experimentation and research. They should be assessed irregardless of the regulatory approach. If EPA puts in a regulation that says, "Thou shalt put in a fence," you still owe it to the public and the farmer to say, this is the environmental improvement you will get.

Mr. BOEHLERT. I appreciate your debate on resources, and I am very enamored with this approach, and you are going to be hearing from us, so I would like to work with you.

Mr. Barnes, are you doing any special research on innovative or low-cost alternatives for wastewater treatment for the small, rural communities?

Mr. BARNES. Yes, we are. I can't tell you specifically what it is, but we have provided information to the committee and also will be glad to provide a copy of our five-year research plan. That is an area that is of particular importance to EPA, and we are and will be doing research in that area.

Mr. BOEHLERT. Getting back to Mr. Hahn, I just looked at a question I had marked down here. What do you do about toxics? When you are dealing with tradable permits and you have got marketable permits as they relate to industrial point sources, the concern is about toxics, particularly acute toxics, which have an immediate impact on the area of release. What are your thoughts on that?

Mr. HAHN. Let me speak to your more general question. What should you do when you have a hot spot in your backyard? Would market-based approaches work? The answer is, generally not. If you have a real problem in your backyard that is only affecting your backyard, you have got to clean that up.

But you may have a system like we adopted in the Clean Air Act. Sulfur is a generally well-mixed pollutant, but if it looks like it is all coming down in one place, you want to avoid that; so you have to put constraints on a market-based approach to ensure you get the right environmental result.

Mr. BOEHLERT. What do you think—as you are looking at a market-based approach, what do you think are the biggest pitfalls we should avoid? Do you have any specifics in mind?

Mr. HAHN. I think you want to avoid one of the big pitfalls that exists with command and control, which is to promise the world, but fail to deliver. What you want is concrete performance-based regulations with teeth.

For example, in the Everglades, government should define responsibilities for the farmer. Then you go out there and measure the results and enforce the system.

Mr. APPLGATE. Thank you, Mr. Boehlert.

The gentlelady from Virginia, Mrs. Byrne.

Mrs. BYRNE. Mr. Hahn, I, too, have some experience with cutting phosphorus in Virginia to protect the Chesapeake Bay. And we did that by a combination of banning detergents that have phosphorus and with best-management practices by farmers, and we were able to achieve fairly good results from that system which—I assume that is not your model of cost benefit.

But I would like to ask you just a little bit about cost benefit because it is something that sounds so good, you know. It really does. We don't want to spend more money than we have to to get the benefit that we need. And I think on page 2 it is even defined as incremental costs of improving exceed the incremental benefits, and that is basically what we are talking about.

My experience has been in cleaning up the Bay and some other areas of water quality that we never talk about the cost of not doing anything. The Chesapeake Bay is a \$16 billion resource, and that resource is never quantified in cost-benefit analysis. It is only the costs of doing something in accord to the costs of the benefit derived. The cost of doing nothing is never quantified.

And so doesn't that really skew what we are trying to do here? Is—if we don't take the total cost, the total cost of either doing something or incrementally doing something to improve the quality vis-a-vis the cost of doing nothing to improve the quality, doesn't that skew the whole system?

Mr. HAHN. You raised two important points. One relates to the fact that, as you pointed out in the Chesapeake Bay, you were able to get phosphorus reductions by stopping people from using detergents and requiring farmers to institute best-management practices. No one ever questioned that command and control could get you those things. The argument for the market-based approach is you have the opportunity to get more environmental quality using fewer resources. It is not that command and control can't work at all.

The second point you raise is a potential indictment of cost-benefit analysis, namely that cost-benefit analysis doesn't necessarily look at a do-nothing option.

I would argue that cost-benefit can look at a do-nothing option. It can look at several options. I am not arguing that it is the be all, end all. I am arguing that that the results from cost-benefit analyses should be a major input into your decision process. You should then determine how to best allocate the public's money after you take into account what economists and scientists might say

about the potential damages from pollution and costs of pollution control.

So I think you are right. You should look at the do-nothing option and say, if there are major costs associated with that, we may want to consider doing something.

Mrs. BYRNE. Right. Whenever I see it defined, it is always the costs of improved exceed the costs of the benefit, as you defined it here.

And let me just go back to our marketable permits for a minute. You quote Joan Robinson about litter in her yard. I am trying to apply marketable permits to that situation. If we have a standard in a neighborhood for litter, and I don't have any and my neighbor has a ton, so I sell my permit to my neighbor, on the whole we may have a neighborhood standard that is less, but I am still living next to a pigsty, right?

Mr. HAHN. You are absolutely correct. That is why, in the case of the Clean Air Act, using just acid rain as the prototype, we decided we didn't want to have a pigsty, that we were going to reduce our litter, in this case  $SO_2$ . We cut it in half and then allowed trading to occur.

So if your point is that you need to think about goals as well as means, we are fully in concurrence.

Mrs. BYRNE. And it is one of the real questions about marketable permits that we look at aggregates. We don't look at specifics. When we can trade, sell these permits, we are not really focusing in on the person or the company or the institution that is doing the most harm. We are allowing them off the hook so to speak, aren't we?

Mr. HAHN. No. We can design a system that effectively addresses the damages.

But getting back—

Mrs. BYRNE. But going back to the control model that you don't like.

Mr. HAHN. Marketable permits reward results rather than the process. In other words, if a business can reduce pollution by a certain amount, it can trade credits to someone else. So you spur environmental innovation. You don't micromanage the company's production process and say, "put on an end-of-point pollution-control device."

You do allow flexibility among the emitters, but you should design the system intelligently so that if there is a particular constraint you are concerned about, like some part of the Chesapeake Bay, you limit trading accordingly.

Mrs. BYRNE. Back to that control model.

Mr. HAHN. That's right. I don't think it is one or the other.

Mrs. BYRNE. Thank you.

Mr. BARNES. Mr. Chairman, if I might, I had a brief comment to that from a municipal standpoint.

I have seen a number of different approaches, the bubble permit and the market permit. One thing that we are concerned with and probably would be opposed to is where you have done a study and figured out what the problem is. Some of it is municipality. Some of it is the industry. Some is some other group that is not always defined. We sometimes find out that the cheapest solution is to give

that to somebody else to clean up, since it is so much cheaper to let the city pay for it. We don't like that.

And if that approach is taken for market permits, it is not a good one. We think if that is the most cost-effective solution, then that entity should go ahead and spend the money and do it, not the municipality.

Mr. APPLGATE. Mr. Horn.

Mr. HORN. Thank you.

Just to pursue a little bit of the last dialogue. I am interested in that because I share some concerns of getting off the hook, if you will, by buying up credits that others have created when you could do a little bit more to get rid of air pollution. I have a few cases in my part of southern California that have burned me when I have read about it in the paper.

But one of the problems could be the costs are at one point, the benefits are at another, when you have a cost benefit analysis. And what is your feeling as to what that does to the effectiveness of that approach? Somebody is going to be bearing the greater part of the pain, fiscal or otherwise, and other people are going to be benefiting without having really had to pay much of the cost.

Mr. HAHN. That is precisely why, Congressman Horn, that I suggested that I didn't think cost-benefit analysis was the be all, end all. I think it is a useful input for you, but you need to weigh those equity considerations that you just raised.

I would also like to address your initial point about marketable permits in Los Angeles-southern California.

As you well know, one of the reasons we are looking at this system now in southern California is because we have run out of quick fixes with command and control. We are looking for a way to stimulate environmental innovation by making pollution prevention pay. And if we can set up the broad targets and then meet these targets by using the market, I think it is a much more effective way to stimulate environmental innovation than having the government try to do it through a big program.

Mr. HORN. Let me ask you one more along the line of how you get a market-based approach, especially in nonprofit or government organizations.

I found bureaucracies are bureaucracies, and often whether they are private enterprise or government has nothing to do with it. They are corporate culture. They all drag their feet the same way. They are all defensive the same way. They are all risk avoidant in the same way, and some of the most efficient human organizations I have known are some of the largest American corporations, not just large parts of the American government.

When you look at the political and institutional obstacles that can exist within the institutions and you try the market-based approach, you try economic incentives, what do you think are some of those obstacles and what can we learn from the studies that have been done on corporate culture and organization and everything else? How do you as an economist take those factors into account?

Mr. HAHN. I really would like to defer to my distinguished former colleague, Herb Simon, who is a Nobel laureate, who made

the point that you did—that private and public corporations exhibit a good deal of similarity.

No one is saying that markets are perfect. What we are saying is that compared to what we have been doing we see an opportunity to get more environmental bank for our buck. Moreover, as you very well know, if you open up the Congressman Smith lemonade stand, you have to pass a market test.

The idea is to incorporate the cost of the environment in your decision-making so you won't take it for granted. That is the whole point of these market-based approaches. So while they may not be a panacea, I would suggest that the time is right to look at them.

Mr. HORN. I think you are right on that it is sort of like Churchill's view of government, that democracy is the least worst and when you look at it in that, if we tried everything else and we aren't making too much progress, why don't we have the guts to take the risk and try this approach and see what incentives can encourage a change in behavior which is often behind most of our problems anyhow, not simply institutional.

Do you have any other factors that come readily to mind from your studies as to some of the obstacles we might well be and we ought to be aware of and we might well confront should we go into a market approach experiment in the area of environmental pollution control?

Mr. HAHN. Well, I think the credit system or property rights have to be very well defined so people know what the rules are. If you are going to change the rules on folks every two years in response to the political winds, a market system is going to be no better than command and control. But if you can guarantee them that the rules aren't going to change dramatically between now and the year 2000—that you are going to ask for a 25 or 30 percent reduction and then revisit the standard in the year 2000—then I think there is a real opportunity for the private sector to deliver the kind of environmental innovation that people like Vice President Gore would like to see.

Mr. HORN. Thank you.

Mr. APPELATE. Thank you very much, Mr. Horn. And I think you are right, Mr. Churchill did say something to the degree that democracy is the worst form of government there is except for all others. And we will have to agree with that. I suppose government at best isn't the most efficient democracy, isn't the most efficient way, but it is the best. It has worked for well over 215 years and sometimes people have acknowledged that maybe government gets too involved in their private lives and business lives, but somebody has to look out for the people in general, too. And if it wasn't for government, why, we would be in quite a pickle most of the time.

And that is why we have a law. We are not a completely free Nation. There isn't really such a thing as total freedom, otherwise we would be in utopia. That went out in the book of Genesis. But thank you very much for being here before the committee.

I appreciate your input and it certainly will be useful to us as we look forward to trying to put together some very important legislation. Thanks again.

This committee is at adjourned until further call.

[Whereupon, at 12:31 p.m., the subcommittee was adjourned, subject to the call of the Chair.]

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PREPARED STATEMENTS SUBMITTED

BY WITNESSES

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STATEMENT BEFORE THE  
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT  
OF THE  
HOUSE PUBLIC WORKS AND TRANSPORTATION COMMITTEE

Relating to

WATER RESOURCE MANAGEMENT AND PLANNING

By

STEVEN M. ARNDT  
Ottawa County Commissioner

On Behalf of the

NATIONAL ASSOCIATION OF REGIONAL COUNCILS  
ENVIRONMENTAL ADVOCACY and SERVICES GROUP and as  
CHAIRMAN, TOLEDO METROPOLITAN AREA COUNCIL OF GOVERNMENTS

May 12, 1993

NARC Testimony 5-12-93  
 ..... Clean Water Act Reauthorization  
 Commissioner Steven M. Arndt  
 Toledo Metropolitan Area COG

Good morning, Mr. Chairman and members of the Committee and staff. I'm Steve Arndt, and this morning I'm here on behalf of the National Association of Regional Councils (NARC) and the NARC Environmental Advocacy Service group. NARC represents the over 500 regional councils across the country and the Environmental Service Group is the advocacy arm of the regional councils most directly affected by water and environmental legislation. A list of members is included in the gold portfolio of information you received from NARC. Also in the packet, you'll see a copy of "Accomplishments in Regional Water Resources Management, Success Stories of Regional Councils", a compilation of approaches our regional councils have taken to deal with a variety of water resource issues.

Mr. Chairman, I would ask that the packet of information, including the National Association of Regional Councils' policy suggestions, be entered into the record along with my testimony today...Thank you.

As Chairman of the Toledo Metropolitan Area Council of Governments and an Ottawa County Commissioner, I'm also speaking about Northwest Ohio and Western Lake Erie water issues. On behalf of all those I'm representing today, I would like to thank you for asking us to provide our views on water resource issues, especially as they relate to your reauthorization of the Clean Water Act.

The present Act has a strong, substate, regional management and planning component, but, because of limitations in federal funding and because of the general movement away from "incentive-based" federalism toward "regulatory-based" federalism, both the Congress and the previous two Administrations have, wittingly or unwittingly, abandoned implementation of this important component.

Further, the present inadequate level of federal assistance, combined with increasingly higher wastewater treatment standards, are forcing local agencies to charge higher local hook-up and treatment fees which, in turn, are pushing up the cost of housing. (Steve Arndt to cite Ohio numbers relating to this point)

In reauthorizing the Clean Water Act, therefore, the Congress should ensure that the nation's water resources are managed and planned in a comprehensive manner by legislatively encouraging regional approaches to, and, where practicable, multi-jurisdictional solutions for, the water quality problems facing local and state governments. Within this planning context, the reauthorization should recognize that further, more stringent standards should only be imposed if such mandates are adequately funded.

NARC Testimony 5-12-93  
 ..... Clean Water Act Reauthorization  
 Commissioner Steven M. Arndt  
 Toledo Metropolitan Area COG

As a county official, I feel we have an important role to play in protecting water quality...but we can't do it alone. The Federal Government's approach has been to issue mandates and leave local government with sole responsibility for implementation. Moreover, the mandates lack a sense of priority.

The Ottawa County sewage treatment plant in Danbury Township is a lagoon system, serving a lakefront residential and recreational area. During a weekend in good fishing weather it's not unusual to have a 4 county population of over 250,000 while in the dead of winter that population in the township dwindles to 4,000. The area doesn't have industry, but we're mandated to test for metals that aren't in the raw sewage, add to that mandates to remove grease and dechlorinate and we have a real cost/benefit dilemma. These mandates don't make a lot of sense in light of our problem. We could get a lot more water quality benefit for the money by extending sewer lines and closing package plants that degreasing or dechlorinating.

The National Association of Regional Councils would like to submit the following 10 legislative suggestions, and I'd like to augment or reinforce them with specific examples and concerns from an Ohio perspective (to be supplied in oral testimony).

Reauthorization of the Clean Water Act should:

1. Return to the original, fundamentally sound strategy of dealing with natural resource issues at the regional level and reemphasize the need for a federal, state and local partnership in, instead of a regulatory-based approach to, resource management
2. Re-establish the mandate for the states to develop and maintain water resource management plans through substate-regional, basin-wide planning processes.
3. Require federal interagency and intragency coordination in regulatory and financial-assistance decisions.

I'll share an example of the Catch-22 of non intragency cooperation. EPA, by allowing private businesses to install "package" sewage treatment plants, development goes ahead without sewers, and the County loses control over its own land use planning. When those neglected treatment plants fail and cause pollution problems, EPA orders the County to take responsibility. This is what happened in Catawba and Portage Townships, and the same thing is happening all over, again, in other lakefront areas.

Luckily on the Catawba/Portage Township project, we got one of the last 55% construction grants, of about \$14 million. Even with that and a special State grant of \$1.5 million, the users are burdened with higher sewer rates. Today, without construction grants, we would not be able to build the project at all, and some 68% of the wells in the area would still be contaminated.

At great cost, we've addressed the issue, but here's the Catch-22. Did EPA stop issuing permits to build these plants, even in areas where they could tie into or extend the sewer system? No, in spite of our pleas, we had to seek relief from our State Legislature to assure that we wouldn't be building the next generation of future problems. Hopefully, the policy and financial implications will tie together better in you Reauthorization. It's sure had to explain back home.

4. Where state or local governments have made long-term financial commitments to meet federal water quality standards, more restrictive federal requirements should not be imposed unless the federal government provides 100 percent funding for such increased costs.
5. Recognize that water pollution and water supply issues are interrelated and that the reauthorized federal program should provide for integrated water resource planning and management processes at the basin and substate regional levels.

Clean water and good fishing bring people to Ottawa County. Protecting those resources is very important, but we don't have complete control. A lot of pollutants come down the Portage River and out into Lake Erie. There are six counties, four cities and about twenty-five villages in the Portage Basin. We want a clean Lake Erie. We want to see an end to beach closings at Port Clinton. We need a clean Lake Erie to protect our own economic base.

- We have pollution coming into the Portage from throughout the basin, and if we're going to address the problems, we have to do it on the basin level. We've seen the Remedial Action Plans use this approach with success in Ohio, and we should apply it to the other river basins as well, like to Portage and the Sandusky
6. Revise the schedule for meeting federal standards for managing combined sewage overflows to reflect the financial capacity available at the federal, state and local levels to deal with this problem.
  7. Emphasize the need for regional approaches and solutions in state and substate management and implementation processes.

NARC Testimony 5-12-93

..... Clean Water Act Reauthorization  
Commissioner Steven M. Arndt  
Toledo Metropolitan Area COG

8. Recognize and strengthen the essential role of local governments in implementing nonpoint-source management provisions.
9. Provide adequate financial assistance to address priority problems mutually identified and agreed upon by the states and localities and coordinated through substate regional councils.
10. Use consistent, interagency-coordinated definitions for water quality terms and standards.

In opening these Clean Water Act Reauthorization hearings, Chairman Mineta talked of the use of State Revolving Loan funds and the possibility of tying the Clean Water and Safe Drinking Water funds together. Developing a "bigger pot" and better financing options are certainly worth your careful consideration.

NARC and its Environmental Advocacy and Services Group would welcome the opportunity to work with you as you develop the water policies that will guide us into the next century. As with transportation and air quality, water issues don't stop at jurisdictional boundaries. They demand and deserve attention, planning and management at the substate regional level.

Again, my thanks for providing this opportunity to share our concerns and suggestions. I'd be happy to entertain any questions from the Committee.

NATIONAL ASSOCIATION OF REGIONAL COUNCILS  
ENVIRONMENTAL ADVOCACY/SERVICE GROUP  
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Toledo Metropolitan Area Council of Governments, Toledo, Ohio  
Western Piedmont Council of Governments, Hickory, North Carolina

**THE 21ST-CENTURY AMERICA PROGRAM:  
Making the U.S. More Competitive**

There is a growing national consensus that the U.S. must enhance its competitive position in the global economy if it is to retain economic leadership during the 21st Century. It has been long recognized that the U.S. economy is really a composite of many subnational economies. During the first half of the 20th Century, our cities were the principal subnational economic units. They contained our industries, labor force, major consumer markets and housing. Today, our subnational economies are considerably more expansive and complex. City boundaries, and often even the more inclusive county boundaries, no longer circumscribe all the components of a local economy. Similarly, state boundaries usually do not contain the larger U.S. economic regions (e.g., the Northeast U.S., the Southwest, etc.). Technological innovation in travel and communications has produced a pattern of growth in our urban and rural regions that has radically altered the configuration of our subnational markets.

The patterns of growth that have blurred local jurisdictional boundaries in our metropolitan areas have produced large economic and market regions that are incongruent with the smaller political jurisdictions comprising them. As a result, public decisions on investments for infrastructure, education and training, health care and other public facilities and services are often disjointed, unfocused and conflicting, making it difficult for these regions to function effectively as economic entities.

NARC recommends that the Administration and the Congress initiate an **intergovernmental, consensus-building process to establish America's investment priorities for the 21st Century**. This is a **"Putting People First"** program, and the **federal government should take the lead** by providing funds to the states to initiate these processes. The products of these state-initiated processes are **state and regional "Strategic Investment Programs."** These processes would identify and set priorities for coordinated public- and private-sector investments in public works, R & D, job training and retraining, and human resource development needed to meet state and regional economic-growth and resource-protection goals for the 21st Century. Funds for these strategic investment processes should be allocated to the states with a requirement for mandatory pass-through of funds to local governments and/or regional councils. The level of funding for each state should be based on present and projected levels of population, modified by each state's level of poverty and unemployment relative to the national levels.

Following gubernatorial acceptance of substate and interstate strategic investment programs, federal financial assistance to assist in implementation should be in the form of supplements to existing, and any appropriate new, federal financial assistance programs. Where a state does not wish to initiate such a process, its local units of government may, through their established substate or interstate regional

councils, request federal funds to participate in the preparation of regional plans that accomplish the same purposes set forth above (on a regional scale).

## II A. PRIORITIES FOR STRATEGIC INVESTMENT PROGRAMS

- ☛ **Repair and construction of infrastructure systems**, particularly transportation and wastewater facilities, to bring them up to "adequate facility standards."
- ☛ **Public- and private-sector "research and development" (R&D) on and installation of, state-of-the-art technologies** specifically in the areas of transportation (e.g., high-speed rail/mag-lev; intermodal termini), communications (e.g., nationwide fiber optics), energy (e.g., solar), automation (e.g., "chip" technology) and waste management (e.g., recycling, biodegradable packaging) systems, to reestablish America's technological leadership by the beginning of the 21st Century.
- ☛ **Job-training and retraining programs** for displaced, unskilled and unemployed workers, to prepare a 21st-Century workforce.

## II B. MINIMUM STANDARDS FOR STRATEGIC INVESTMENT PROGRAMS

- ☛ **Strategic investment programs should cover a period of 6 years (1994-2000) and be ready for implementation by mid-1994.**
- ☛ **Strategic investment programs should fully integrate and coordinate objectives and priorities for overall local and regional community development, including at least *transportation, natural resource and environmental protection, human resource development, housing, waste disposal and recycling, economic development, job training and other programs* into a coordinated "blueprint" for action.**
- ☛ **Strategic investment programs should identify specific actions, and sets of action, necessary among all levels of government to effectively manage both the supply of and the demand for public services and facilities.**
- ☛ **Strategic investment programs should evolve through bottom-up, open, collaborative processes** that produce a consensus among units of government, citizens, private-sector leaders and others at the substate, or interstate, regional level.
- ☛ **Strategic investment programs should be coordinated regionally during their development with other local governments.**

- ☛ **Strategic investment programs should provide for a monitoring and evaluation system**, based on a comprehensive data management system, that tracks the relative effectiveness of plan's policies and priorities in achieving statewide goals and objectives.

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**Water Environment  
Research Foundation**

*Formerly Water Pollution Control Federation Research Foundation*

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**REQUEST FOR AUTHORIZATION FOR FUNDING  
FOR  
WATER ENVIRONMENT RESEARCH FOUNDATION**

**PRESENTED  
TO  
HOUSE WATER RESOURCES & ENVIRONMENT SUBCOMMITTEE  
PUBLIC WORKS AND TRANSPORTATION COMMITTEE**

**BY**

**GEORGE D. BARNES, P.E., DIRECTOR  
BUREAU OF POLLUTION CONTROL  
DEPARTMENT OF PUBLIC WORKS  
CITY OF ATLANTA, GEORGIA  
AND  
CHAIRMAN, BOARD OF DIRECTORS  
WATER ENVIRONMENT RESEARCH FOUNDATION**

**MAY 12, 1993**

Chairman Applegate and members of the Water Resources Subcommittee. My name is George D. Barnes and I am Director of the Bureau of Pollution Control for the City of Atlanta. I am here today on behalf of the Water Environment Research Foundation in my role as Chairman of the Board of Directors to ask for your support of our request for funding at the level of \$2.5 million in the FY '94 budget.

The Research Foundation is an organization that is very important to my city and to its other Subscribers. The Foundation was organized in 1989 and has grown steadily to its current level of membership of more than 150 Subscribers. These Subscribers represent more than 60 million people and include municipal wastewater utilities, industry, consultants and equipment manufacturers. Over the past three years our Subscribers have invested approximately \$3 million in the Foundation. During this same period, an added investment of \$2.7 million has been made by the federal government.

These dollars have been committed to fund more than 33 specific research projects that have been identified and prioritized by the Foundation's Subscribers, in the areas of Human Health and Environmental Effects, Integrated Resource Management, Collection and Treatment Systems, and Residuals Management. These projects will provide important information that will directly benefit environmental protection and the communities that we serve. By combining the municipal/federal investment with dollar-for-dollar matches from other sources, the Foundation has leveraged its investments to fund more than \$11 million worth of active research.

I would like to provide the committee with a brief overview of the organization and operating policies of the Research Foundation to illustrate how research projects are identified and managed and how our funds are used.

The Research Foundation is a not for profit corporation that is governed by a Board of Directors representing the general makeup of its Subscribers. In addition, the Board has established a Research Council, composed of nationally recognized experts from the municipal, academic, consultant, industrial and regulatory areas, to develop and oversee the Foundation's Research Program. The Board of Directors and the Research Council are composed of volunteers who serve with no compensation from the Foundation. The day to day activities of the Foundation are carried out by a full time staff of 8 professionals. Approximately 84% percent of our annual revenues are expended for research and approximately 16% percent for administration.

A Five-Year Research and Development Plan is developed annually, with full input from the Research Council and Subscribers, to cover specific areas of concern that have been identified and prioritized. A list of the current research projects and areas proposed for 1994 research is attached.

I will focus my remaining remarks by giving you some general background on several of the key projects that are underway in the areas that were previously mentioned.

### RESIDUALS MANAGEMENT

The Foundation is concerned with both facilities which incinerate, and those which use a form of land disposal. Information derived from current and future studies will allow utilities more freedom in selecting the most suitable technologies for biosolids treatment and disposal, and will provide tools to promote public acceptance.

Our project on the Evaluation and Quantification of Biosolids Incinerator Hydrocarbon Emissions is looking at the extent to which incinerators represent a health risk. Recent health risk assessments are based upon total hydrocarbon measurements. This THC measurement is used for all organic compounds that might be emitted from a biosolids incinerator. However, cancer potency and risk factors vary, and are most often established on a compound by compound basis. Regulatory agencies have been forced to lump these compounds together forming a composite unit risk factor, while there is little data to verify the assumptions that underlie this grouping and the subsequent health risk assessments for biosolids incinerators.

The first phase of this project has been completed and the information that was obtained was extremely useful to EPA and the municipalities that utilize incineration, for the establishment of scientifically sound and acceptable criteria for the disposal of biosolids. The data provided by the Research Foundation will result in savings to municipalities of millions of dollars in fuel costs and will provide for an acceptable level of protection for human health and the environment.

In the area of land application we are conducting research that will Document Long-Term Experience of Biosolids Application Programs. This project will undertake the documentation of experiences at land application sites that have operated for more than ten years to provide the public and responsible officials with credible information on which to base policy decisions. This report will be available this year.

We are expanding our land application research through a cooperative project with the New York State Energy Resources Development Agency. This \$250,000 cooperative project will gather new data on the effects of thermal processing and natural elements on long term application of biosolids.

Again in the area of biosolids, the Foundation is participating in a project sponsored by the National Research Council which will study the Use of Treated Municipal Wastewater Effluent and Biosolids in the Production of Crops for Human Consumption.

Future biosolids research is addressing the Demonstration of Soil Remediation with Sewage Biosolids to Reduce Bioavailability of Metals. This will be of interest to municipalities and EPA in that it focuses on a beneficial use of wastewater biosolids and information on the

relative bioavailability to mediate soil-born metals. The results of this study could help to clarify the issue of whether a new and inexpensive resource is readily available for remediating urban soils contaminated with lead from auto exhausts and other sources.

### INTEGRATED RESOURCES MANAGEMENT

Integrated Resource Management is gaining popularity and looms on the horizon as a challenge to water quality professionals. Changes in current regulations are requiring utilities to look at the future responsibility for the entire watershed. The Foundation's Nonpoint Source research and Aquatic Ecological Risk research begins to put the watershed management puzzle together while providing information that will be of immediate use.

Federal NPS initiatives are forcing state governments to implement regulations before the resulting needs can be fully identified and researched. Many of the current point source regulations are based on dry weather standards. Because the loading of NPS primarily occurs during wet weather there is cause to question whether current standards should apply.

While there is no question that we are in support of reducing the environmental impact from nonpoint source pollution, there is a question as to the required level of treatment. By understanding the impact of NPS, it is possible that wet weather standards could be developed to fully protect the environment and at the same time reduce the costs associated with overly conservative controls.

One of the research projects underway looks at the Identification and Evaluation of Use-Attainability Methodologies for Aquatic Ecosystems. This research will provide a comprehensive and valid technical resource to conduct use-attainability analysis to accurately establish present uses and prediction of potential uses to develop the most appropriate management techniques to optimize the net environmental benefit. Also included will be a detailed discussion and support analysis of recommended methodologies and their applications.

We have also funded a project which Identifies Effective Sampling Protocols for Nonpoint Source Pollutants. The main premise for this research is that most monitoring systems are limited to a relatively small number of samples collected during storm events and lack continuous stream discharge measurements. This, in turn, produces inaccurate NPS load estimates and limits the development, calibration and testing of storm-loaded predicting models.

As one of the goals of the Research Foundation is to eliminate duplication of effort, this study will expand on data sets already under study and includes on-going sampling services provided by the U.S. Geological Survey. This research will determine the amount of suspended sediments, nutrients and pesticides transported by surface and subsurface waters draining from agricultural basins. The result will be the organization of sampling strategies for assessing the impact of nonpoint source pollutants in receiving streams and efficacy of

agricultural best management practices. A final report will be prepared representing a systematic evaluation of storm event sampling requirements to estimate pollutant loading.

Other projects will provide research dollars for studies in the Use of Riparian Buffer Zones and Constructed Wetlands in Water Quality Management Programs and also research on Particulate and Particulate-Pollutants Interaction in Water Bodies and Wetlands Receiving Point and Nonpoint Discharges.

#### HUMAN HEALTH AND ENVIRONMENTAL EFFECTS

Closely related to the study of NPS is that of Aquatic Ecological Risk. In this instance we look at the magnitude and probability of human activities and natural phenomena on the watershed's ecosystem.

Because all hazardous materials cannot be tested in-depth, risk assessment protocols should be able to screen substances for environmental risks using minimal testing and evaluation efforts. Such protocols should be capable of delineating high risk situations that require immediate action, from those that have a potential but ambiguous risk, and those which have negligible risk.

We are currently funding a project which will Develop, Test, Validate and Refine Protocols for Assessing Aquatic Ecological Risk. While a large number of risk assessment protocols have been proposed or applied, none of these are currently comprehensive and flexible enough to be directly applicable to water quality criteria, standards and NPDES permit limitations. As more risk-based regulations are imposed it becomes increasingly important for research of this type which will produce a comprehensive methodology for using Aquatic Ecological Risk assessments to derive both numerical and narrative quality criteria and standards.

The Research Foundation has started another project in this area which will study the Time-Scale Effects of Chemically Toxic Events in Freshwater and/or Marine Ecosystems. This study will address the need to assess the time-scale impacts associated with point and NPS toxicity for pollutant loadings in different aquatic ecosystems. Understanding this issue is important in developing toxics discharge regulations for Combined Sewer Overflows (CSOs) and other stormwater events.

As an extension to this research, the last area I want to mention is the Foundation's involvement in the Great Lakes Initiatives. The Water Environment Federation's work group in this area has approached the Research Foundation to consider playing a role in the need for scientifically sound water quality criteria. The Foundation is in the process of developing an independent research plan to improve the database and science used to establish water quality criteria. The Foundation would then solicit and accept donations from municipalities, consultants, and industry, to contract for independent research.

As you have heard, the Water Environment Research Foundation is addressing the needs and concerns of the cities and utility agencies that are faced with making major financial commitments that have a direct impact on the citizens they serve.

The municipal subscribers to the Foundation are supporting the Foundation through annual subscription rates that are based on \$250 per million gallons of daily average treated flow. The minimum rate is \$250 for the smallest facilities and it caps at \$75,000 for the largest facilities. To give you an idea, Atlanta is a 148 million gallon facility and our yearly subscription rate is \$37,000. Our elected officials have supported this investment because they realize that a return of many times this amount is obtained from the research work that is being done. For example, the amount of money Atlanta is saving on the incinerator hydrocarbon emissions study alone will pay our subscription rate for the next 10 years.

In addition to the financial contribution that is made annually by our Subscribers, many utilities are contributing direct support through the participation of staff members on the Board of Directors and the Research council. This includes Subscribers such as Erwin Odeal from the Northeast Ohio Regional Sewer District, Billy Turner from the Columbus Georgia Waterworks, Edward Wagner from the City of New York, Department of Environmental Protection, Walter Bishop from the Contra Costa California Water District and John Lampe from the East Bay Municipal Utility District in Oakland, California.

Federal Funding previously received by the Research Foundation includes \$1.5 million in FY '91, \$.5 million in FY '92 and \$.7 million in FY '93, bringing the total to \$2.7 million of Federal Funding. The EPA is actively participating with the Foundation in the identification of research projects and in the selection of projects for which the federal funds will be allocated.

Through it's collaborative funding efforts, the Research Foundation has made an admirable start in addressing some of the nation's most pressing water quality research needs, however, there is much more that still needs to be done.

When utility directors such as myself go in front of our elected officials and rate payers to request support and funding for state and federally mandated environmental programs, we must have confidence that the mandates are based on sound and documented scientific information. In our view, it is essential that the federal partnership with the Research Foundation be continued so that we and the citizens that we all serve will be able to confidently support the programs that are required to protect and enhance the environment.

I again urge for you to support of our request for funding at the level of \$2.5 million in the FY '94 budget.

I sincerely appreciate the opportunity to appear before you today and I would be pleased to answer any questions.

## WATER ENVIRONMENT RESEARCH FOUNDATION

## CURRENTLY FUNDED RESEARCH

Biodegradation of Organic Pollutants in Anaerobic Digestion  
Comparative Efficiency of Chlorination-Dechlorination and UV Irradiation  
Evaluation of Biodegradation Rates of Toxic Organic Chemicals  
Assessment of Research Needs for Nutrient Removal from Wastewater  
On-Line Monitoring to Control Transients in Wastewater Treatment  
Low Emissions Sewer Systems for Industry  
Optimization of Vortex Separator Removal Efficiencies  
Identification and Evaluation of Use-Attainability Methodologies for Aquatic Ecosystems  
Stripping and Volatilization in Wastewater Facilities  
Sampling and Analytical Methods for Air Emissions Measurements  
Control and Production of Toxic Air Emissions by POTW Odor Control Equipment  
Vapor-Phase Biological Control of POTW Air Emissions  
Use of Riparian Buffer Zones and Constructed Wetlands in Water Quality Management Programs  
Transport and Fate of Pollutants in Sediments  
Water Reuse Assessment  
Document Long Term Experience of Sludge Land Application Programs  
Evaluate and Quantify Sludge Incinerator Hydrocarbon Emissions  
Polymer Characterization & Control in Sludge Management  
Demonstration of the Soil Remediation with Sewage Sludge to Reduce Bioavailability of Metals  
Long Term Fate of Land Applied Wastewater Materials  
The Use of Treated Municipal Wastewater Effluents and Sludge in Production of Crops for Human Consumption  
Survival and Regrowth of Disinfected Indicator Bacteria  
Develop, Test, Validate and Refine Protocols for Assessing Aquatic Ecological Risks  
Time-Scale Effects of Chemically Toxic Events in Freshwater and/or Marine Ecosystems  
Collaborative National Study Using Molecular Techniques to Detect Hepatitis A *Virus* and Virulence factor  
Genes in *E. coli*

**WATER ENVIRONMENT RESEARCH FOUNDATION****PROPOSED RESEARCH FOR 1994**

Prediction of the Equilibrium and Rate Expressions that Describe the Dissolved and Particulate States of Metals in Wastewater  
Secondary Clarification Assessment  
Understanding the Impacts of NPS Snowmelt on Urban Receiving Waters  
Particulates and Particulate-Pollutant Interactions in Water Bodies and Wetlands Receiving Point and Nonpoint Discharges  
Small Wastewater Systems Research  
Watershed Management Protocol  
Establishing Sludge Stability Criteria  
Influence of Polymer Chemistry on Sludge Products and the Environment  
Bioassays and Measures of Toxicity Workshop  
Risk Management Workshop  
Water Quality Indicators Workshop  
Improved Enumeration Techniques for Indicator Bacteria and Pathogens  
Effects of Residual Disinfectants and By-Products in Aquatic Ecosystems

1906

**STATEMENT OF  
JAMES R. BATCHELDER  
VICE PRESIDENT,  
ENVIRONMENTAL AFFAIRS AND TECHNICAL SERVICES,  
KOPPERS INDUSTRIES INC.  
ON BEHALF OF  
THE AMERICAN WOOD PRESERVERS INSTITUTE  
ON THE REAUTHORIZATION OF THE  
FEDERAL WATER POLLUTION CONTROL ACT  
BEFORE  
THE SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT  
HOUSE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION  
MAY 12, 1993**

Mr. Chairman and members of the Subcommittee, thank you for the opportunity to present the views of the American Wood Preservers Institute (AWPI) on the Federal Water Pollution Control Act reauthorization.

I am James R. Batchelder, Vice President of Environmental Affairs and Technical Services for Koppers Industries Inc. Koppers Industries owns and operates 13 wood preserving plants in the United States. I am a past chairman of AWPI and remain active in that organization. I am familiar with the Clean Water Act and its regulations. I am accompanied today by Michael Charles, manager of regulatory affairs for AWPI, and John C. Chambers of McKenna & Cuneo, our legal counsel.

The Institute is the national trade association representing the wood-preserving industry. Its members include manufacturers of treated-wood products; registrants of wood-preserving pesticides regulated under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); suppliers of raw materials and equipment; and providers of allied services (e.g., environmental engineering and consulting firms).

Our members employ creosote, pentachlorophenol, copper-based preservatives, and inorganic arsenic-chromium formulations in the preservation of wood for consumer goods and for such industrial uses as railway ties, utility poles, and marine piling.

My comments today primarily will address the wood-preserving industry's interest in maintaining the Domestic-sewage exclusion (DSE) and recommended improvements to the effluent limitations and pretreatment standards process. I wish to stress five important points.

**First, Congress should retain the domestic-sewage exclusion in Section 1004 of the Resource Conservation and Recovery Act (RCRA) to protect American industry's ability to continue to safely and efficiently discharge all wastewaters that have been pretreated to meet Clean Water Act and permit standards.**

A critical issue for the wood-preserving industry involves the retention of the domestic-sewage exclusion under Section 1004(27) of RCRA for industrial effluents that are discharged to publicly owned treatment works or POTWs.

Like many other industries, wood preservers produce wastewater that is listed as a hazardous waste under RCRA or that contains hazardous waste. Where discharged to a POTW, this water is subject to regulation under the Clean Water Act, which requires pre-treatment of the wastewater and which imposes rigid monitoring and discharge limitations on the generator of the wastewater.

AWPI opposes any ban on the discharge of wastewater to a treatment works that already is subject to permitting and pretreatment under the Clean Water Act and local authority.

Unlike most other wastes, wastewater cannot be effectively landfilled or incinerated,. It must eventually be released to the environment as a liquid or vapor.

Discharge to POTWs -- in full compliance with the Act's pre-treatment requirements -- assures that wastewaters are (i) properly and safely pre-treated by the generator, (ii) treated by the POTW, and (iii) discharged in accordance with a state or federal permit issued under the National Pollutant Discharge Elimination System (NPDES).

Additionally, under current federal rules<sup>1</sup>, generators already are required to notify POTWs in writing that their discharge contains hazardous waste and to list the hazardous constituents in it.

Let me emphasize this point: Discharge under the DSE does not avoid regulation; it simply transfers control of the discharge from RCRA to the Clean Water Act. The exclusion provides a cost-effective management alternative for industry and protects the environment.

Repeal of the domestic-sewage exclusion would eliminate an environmentally protective disposal outlet for industrial effluent meeting a Clean Water Act treatment standard.

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<sup>1</sup> 40 CFR §403.12(p)(1).

As you may know, proposals in the last Congress would have placed wood-preserving wastewaters treated with the appropriate technology in the unusual position of being disposable at a RCRA Subtitle C facility, but barred from discharge to a POTW after being properly treated to allow for safe discharge. This would create an unnecessary conflict between the two laws, produce confusion among regulated industries, and provide no additional environmental benefit.

**Second, problems related to the DSE can and should be solved by proper implementation and enforcement of existing regulation of POTWs.**

POTWs are already required to have pretreatment programs that regulate industrial discharges to their systems, including those that are or contain hazardous waste. Congress should insist that EPA fully implement these requirements through enforcement and by providing help in developing standardized pretreatment standards.

NPDES permits for POTWs should properly account for connected industrial dischargers, as well as for specific local conditions. Thus, by meeting NPDES requirements and enforcing their own pretreatment requirements, POTWs will assure that industrial dischargers, including those taking advantage of the DSE, do not cause environmental harm or public hazard.

**Third, pretreatment standards and effluent limitation guidelines (ELGs) do not provide the timeliness or flexibility needed. A more streamlined, efficient process should be implemented.**

We believe that your consideration of problems with the existing system is important because the Federal facilities Compliance Act and previously proposed CWA legislation make use of the DSE dependent of the existence on-- and compliance with -- pretreatment standards. We have found the system of setting and updating pretreatment standards unworkable.

Pretreatment standards and effluent limitation guidelines (ELGs) must allow for flexibility in application relating to location specific situations and changing regulatory and technical conditions.

The standards and guidelines have been in effect for the wood-preserving industry since 1972 and they have not been substantially changed since then. When they were promulgated, they represented the then-current state of the art in wood-preserving wastewater treatment.

The effluent limitation guidelines prohibited discharge to surface waters. Similarly, the pretreatment standard for new sources (PSNS) also barred any discharge to POTWs. Nevertheless, the pretreatment standard for existing sources (PSES) allowed discharges while limiting levels of oil and grease, copper, chromium, and arsenic.

The no-discharge requirement was accomplished by means that generally included primary oil-water separation, collection of wastewater in soil-lined surface impoundments, and treatment or disposal by evaporation in lined surface impoundments, or by treatment or disposal by evaporation or spray application to land.

In 1980, bottom sediment sludge from the treatment of wastewaters from processes that use creosote and pentachlorophenol were listed as hazardous wastes under RCRA.

The U.S. Environmental Protection Agency (EPA) indicated that the accumulated sediment in surface impoundments was "storage" of a hazardous waste under RCRA. This made the continued use of surface impoundments impossible. Thus, many wood preservers closed their impoundments and installed treatment systems that discharged wastewater to spray irrigation fields because the effluent limitation guidelines prohibited direct discharges.

Then, in 1991, EPA added "process wastewater" to the list of hazardous wastes from wood-preserving operations. This meant that the irrigation fields would require a RCRA permit for land disposal. RCRA permitting is not required for a discharge to a POTW or in accordance with an NPDES permit, however.

Most wood preservers who employ oilborne preservatives, including most Koppers facilities, now discharge pretreated wastewater to POTWs. But some plants, including three Koppers plants, are not served by sewer systems. Consequently, discharge to a POTW is not an option.

Because the effluent limitation guidelines require "no discharge," NPDES permits cannot be obtained for surface discharge. Thus, due to RCRA and effluent limitation guidelines, there is now no viable option for discharge of wood-preserving wastewater where a POTW is not available, no matter how well the water is treated.

The guidelines need to allow individual permit writers the flexibility to consider variances to the ELGs where changing technology and regulations make their application impractical for specific situations.

In addition, the process for reviewing and updating existing pretreatment standards and effluent limitations needs to be made workable.

Due to changes in regulation and environmental standards, we in the wood-preserving industry have made substantial progress in our wastewater collection and treatment in the last 20 years.

But the pretreatment standards and effluent limitations have not changed to keep pace. They are now out of date and do not provide appropriate standards for either surface discharge or pretreatment. This means that they are generally of no use to permit writers.

Many within EPA may recognize this problem, but the Agency is too busy developing new standards and guidelines to properly consider updating the existing ones.

With new industries springing up every day, it is not practical to expect EPA to write and keep current standards for every industry. In many cases, permit writers must comply with basin plans, toxics criteria, and other local concerns to the point the standards are of no use at all.

They should be promulgated only to address specific and widely applicable national needs. They should be reviewed periodically, such as five years, at which time the need and appropriateness of the standards would have to be evaluated and reaffirmed.

**Fourth, the time limitation for appealing an ELG should be eliminated.**

The Clean Water Act and EPA regulations provide a method for dischargers to appeal effluent limitation guidelines based on "fundamentally different factors" than were considered in developing the guidelines. Nevertheless, these sections also require that a request for a variance based on fundamentally different factors be filed within 180 days of the date the effluent limitation was published.

No provision is made for factors that change after the effluent limitation has been promulgated. RCRA was substantially amended in 1984, land-disposal restrictions were imposed, and wood-preserving wastewater has been listed a hazardous waste. Moreover, the state of the art of wastewater treatment technology has changed radically. Yet the effluent limitations reflect none of these changes.

EPA should be allowed to consider fundamentally different factors when issuing permits, whenever they become different, rather than prohibited from such consideration. The time limitation for a variance based on fundamentally different factors should be rescinded.

**Finally, the Federal Facilities Compliance Act of 1992, Federally Owned Treatment Works modifications to the DSE unnecessarily restrict industrial discharges, but can be made workable.**

We understand that the language used in the Federal Facilities Compliance Act is being considered for incorporation into the Clean Water Act Reauthorization to restrict application of the DSE. This Act provided a new section 3023 to the Resource Conservation and Recovery Act (RCRA) covering Federally Owned Treatment Works (FOTWs) which provides an added interpretation for how the DSE should apply to FOTWs. In this context, the DSE was modified to say that solid or dissolved solid material in domestic sewage is not a solid waste if:

- 1) the waste water source is subject to and in compliance with Pretreatment Standards; or
- 2) for waste water for which no pretreatment standard has been written, EPA makes a schedule to make a Pretreatment Standard which would apply to the waste water source within 7 years, and provided that EPA actually does promulgate the Pretreatment Standard and the discharge complies with that standard when it become effective; or
- 3) for waste water without current or planned Pretreatment Standards, the waste water is not prohibited from land disposal because it has been treated to meet the land disposal restriction (LDR) limitation levels; or
- 4) the waste water is generated by a household or person generating less than 100 Kg/month.

The Act further states that it is unlawful to discharge hazardous waste to FOTWs.

If this language is applied to Publicly Owned Treatment Works (POTWs), the following would result:

Existing wood preserving plants currently subject to pretreatment standards could continue to discharge wood preserving process waste water, but any discharge exceeding the standards would be a RCRA violation, in addition to potential pretreatment permit and CWA violations.

Any new wood preserving plant could not discharge process waste water to a POTW because the Pretreatment Standard for new plants is "no discharge." This condition currently exists and would continue to give existing plants a competitive advantage.

Any facility with hazardous waste water not presently subject to pretreatment standards or land disposal restrictions would be prohibited from discharging to a POTW. Only after LDR limitations are achieved with pretreatment could the waste be discharged. The language requires that when a waste stream is newly listed, it would immediately be prohibited from discharge to POTWs. Only after LDRs are set could discharge be allowed.

Further unnecessarily complicating this scenario, the exemption would only apply if the waste water meets the LDR limits "because such material has been treated..." Thus, if the waste water met the limits without treatment, it could not be discharged.

Although we do not believe additional regulation of discharges under the DSE is justified, if the Congress believes it is necessary, Koppers and the AWPI would not oppose restricting the DSE by incorporation of the language used in the Federal Facilities Compliance Act as the best alternative, provided paragraph 3023 (a) (3) is corrected to read as follows:

**(3) such solid or dissolved material is not covered by paragraph (1) or (2) and is not prohibited from land disposal under subsection (d), (e), (f), or (g) of section 3004 because it is in compliance with all applicable treatment standards established pursuant to Section 3004(m); or**

AWPI and Koppers support responsible legislation and regulation. We encourage you, as you reauthorize the Clean Water Act, to consider our concerns. We also welcome any chance to work with you as the Act is considered by your committee.

Mr. Chairman, this concludes AWPI's prepared testimony. I will be happy to answer any questions.

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STATEMENT OF  
HUGH CAMPBELL  
DUPONT COMPANY  
ON BEHALF  
OF THE  
CHEMICAL MANUFACTURERS ASSOCIATION  
BEFORE THE  
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT  
OF THE  
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION  
U.S. HOUSE OF REPRESENTATIVES  
REGARDING  
CLEAN WATER ACT REAUTHORIZATION  
MAY 12, 1993

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WRITTEN STATEMENT OF THE  
CHEMICAL MANUFACTURERS ASSOCIATION  
REGARDING  
CLEAN WATER ACT REAUTHORIZATION

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## I. Introduction

The Chemical Manufacturers Association (CMA) is pleased to submit this written statement on reauthorization of the Clean Water Act (CWA). CMA is a nonprofit trade association whose member companies represent more than 90 percent of the productive capacity of basic industrial chemicals in the United States. CMA's members are directly and significantly affected by the requirements of the Clean Water Act.

CMA and many of its member companies were actively involved in the CWA reauthorization that led to Congress' passage of the Water Quality Act of 1987 (WQA). Since 1987, CMA has worked to help develop regulations to implement these amendments. Most of the regulations stemming from the 1987 amendments have been promulgated and CMA members are now implementing them at their facilities. Needless to say, there has not yet been an adequate opportunity to assess the positive impact on water quality as a result of full implementation of programs that Congress adopted in 1987.

Further, since 1987 Congress has passed three other pieces of legislation directly dealing with water quality issues -- the Great Lakes Critical Programs Act of 1990, the Coastal Zone Management Act Amendments of 1990, and the Oil Pollution Act of 1990. Implementation of these three programs is just beginning. EPA recently proposed guidance for the Great Lakes States that will produce consistent, minimum water quality controls for this region. The CZMA amendments, which provide broad coverage in 34 states, will effect controls on nonpoint sources of pollution in coastal waters, including those coastal waters of the Great Lake states, and adjacent shorelands of

these states. Regulations under the Oil Pollution Act, implementing the requirements for facility response plans to deal with worst case discharges of oil, have either been proposed or promulgated. Another piece of legislation enacted since 1987 that will also effect additional reductions in releases to all media, including water, is the Pollution Prevention Act of 1990. Implementation of new reporting requirements under this act is also just getting underway.

According to EPA, regulatory controls on industrial point sources have succeeded in achieving large reductions in pollutants discharged to waters of the United States. When the Clean Water Act was first enacted in 1972, industrial discharges were considered a major cause of water quality impairment. Two years ago when CMA testified before this committee, we quoted EPA's National Water Quality Inventory -- 1988 Report to Congress -- to the effect that less than 15 percent of the remaining water quality problems could be attributed to industrial discharges. In EPA's 1990 Report to Congress, the data is even better: less than 10 percent of the remaining water quality problems were attributed to industrial discharges.

While it would be wrong for industry to use these statistics to claim its work was done, CMA believes it is appropriate to cite these data to support our belief that the Clean Water Act controls on industrial discharges have been successful and will ensure continuing improvements to water quality. The trend revealed by these data do not suggest that more controls on industrial discharges are needed. Instead, they suggest that existing controls on industry are effecting continuing improvements. As Congress considers legislation to reauthorize the Act, therefore, it should ask itself three fundamental

questions. First, will additional regulation of industrial point sources produce significant reductions in risk to human health and the environment? Second, will additional regulation of industrial point sources produce environmental benefits worth the cost or will additional regulation disrupt the current regulatory scheme? Finally, can our nation's increasingly limited resources be better spent on other water quality and environmental problems where the risks are more significant?

Instead of layering more regulation on the industrial community for questionable environmental return, CMA urges Congress to focus its reauthorization efforts on the remaining significant water quality problems. It is our view that additional regulatory controls on industrial point source discharges at this time would produce little if any significant environmental benefit.

CMA would like to present its position in detail, covering: a description of what the regulated community has been doing to implement ongoing CWA programs; a discussion about pollution prevention in the context of CWA reauthorization, including both how the current act is already forcing this new mindset and what provisions in the existing CWA act as barriers to additional pollution prevention activities; and a general discussion of several other issues being mentioned for Congress' consideration in this reauthorization.

## II. Current CWA Industrial Point Source Programs

### A. Ongoing Effluent Guidelines and Water Quality Controls

The Clean Water Act provides for a combination of technology-based and water-quality-based controls on point source discharges.

Technology-based controls represent the level of pollutant removal, on an industry-by-industry basis, that the best technology is capable of achieving. Water quality standards are the pollutant levels that are necessary to protect the designated uses of the receiving waters, e.g., fishable/swimmable.

There are three increasingly stringent levels of technology-based controls for plants that discharge directly to U.S. waters (direct dischargers): Best Practicable Technology (BPT) controls for all pollutants; Best Conventional Technology (BCT) controls for conventional pollutants; and Best Available Technology (BAT) controls to specifically address toxic and nonconventional pollutants. Plants that discharge their wastewaters to publicly-owned treatment works (POTWs), i.e. indirect dischargers, are also subject to EPA promulgated technology-based pretreatment standards, which are generally comparable to the BAT limits for direct dischargers. EPA issues these technology standards on an industry-specific basis. Where industry-specific standards have not been developed, reductions in pollutant discharges are imposed on direct dischargers through permit limits that are based on the Best Professional Judgment (BPJ) of EPA and state regulatory officials. Controls on indirect dischargers are imposed through EPA's

general pretreatment regulations and limits developed by individual POTWs.

As technologies for treating wastewater discharges have improved through the years, the industry-specific technology-based controls similarly have developed in technical sophistication, resulting in more and more stringent standards. Revisions of existing effluent limitation guidelines are ongoing and reflect increasingly sophisticated technological means for reducing pollutants discharged. Industries without effluent guidelines are also being targeted for development of guidelines. Pursuant to a 1992 consent decree issued under Section 304(m) of the Clean Water Act, EPA is required to promulgate new and revised effluent guidelines for seven specific industry categories between 1993 and 1996; to conduct studies on 11 industry categories according to specific schedules between 1993 and 1997; and to promulgate 12 new or revised guidelines between 1997 and 2003.

Today, EPA has developed technology-based effluent guidelines for nearly 50 different industries. These regulations control the discharges of conventional pollutants at parts per million levels and the priority pollutants at increasingly low parts per billion levels.

Regulation of the chemical industry is a case in point. In 1987, EPA promulgated effluent limitation guidelines for the organic chemicals, plastics and synthetic fibers point source category (OCPSF --40 C.F.R. Part 414). These guidelines included discharge limits for conventional and nonconventional pollutants, and for more than 60 individual toxic pollutants for direct dischargers. These guidelines also imposed categorical pretreatment standards for more than 40 toxic

pollutants for indirect dischargers. This rule imposed more pollutants limits on the chemical industry -- by a wide margin -- than any other industry guidelines had done to date -- and these pollutant limits were at more stringent levels than any other industry guidelines to date.

In addition to compliance with technology-based standards, dischargers must also meet even more stringent water-quality-based standards where needed to meet designated uses of waters. Water quality standards are developed by the states for the protection of human health and aquatic life. They are based on chemical-specific water quality criteria (designed to protect aquatic life and human health) and the designated use of the receiving stream. These standards are incorporated into permit limits by wasteload allocations among dischargers along the same water segment. In recent years, EPA has begun developing guidance on sediment criteria, wildlife and biological criteria. Once these criteria are finalized, these too will be incorporated into states' water quality standards to protect sediment, wildlife and ecosystems and may lead to lower pollutant discharge limits.

Several other new developments in the water quality based program of the Act were added by the 1987 amendments to the Clean Water Act to address the problem of toxic hotspots. In Section 303(c)(2)(b) of the Act, Congress imposed a three year deadline on states to adopt water quality standards for toxic pollutants that interfered with the designated uses of the states' waters. By December 1992, according to EPA's assessment of states' standards, some 14 states had still not fulfilled their obligations under this section. As a result, relying on Section 303(c)(4) of the Act, EPA promulgated federal water quality

standards for toxic pollutants in those states (57 Fed. Reg. 60848, Dec. 22, 1992). This federal water quality rulemaking was unprecedented because up until now, water quality standard setting was the primary responsibility of the states. EPA's action is currently being challenged by several different parties on several different grounds. From Congress' perspective, however, EPA's action is significant because it should suggest that additional water quality controls are not necessary. All the states now have adequate water quality standards to address toxic hotspots in their states' waters. Because standards for toxics are now in place, in the years ahead, water quality concerns will likely drive the NPDES permitting process more than ever before. This will mean increasingly stringent permit limits where conditions in the receiving waters require it.

#### B. New Controls and Programs

In addition to pollutant-specific technology-based and water quality-based permit limits, permitting agencies have developed or are developing other tools to protect the aquatic environment from adverse effect and to address the impacts of complex effluents. These tools include: bioconcentration evaluations for ascertaining adequacy of controls on substances in effluents that may bioconcentrate; biomonitoring requirements for determining the toxicity of the effluent; and, where necessary, numerical toxicity limits in NPDES permits.

New programs that emerged from the 1987 amendments and more recent legislation have also produced a panoply of new requirements. Under Section 304(1) of the Act, individual control strategies are being

incorporated into NPDES permits of facilities that discharge to impaired waters specifically to address remaining toxics concerns. Under Section 402(p), the control of stormwater discharges is underway with requirements for general, group or individual permits. In 1990, in response to EPA's Domestic Sewage Study, new controls were added to the CWA's pretreatment program for indirect dischargers who discharge to POTWs. In particular, these regulations improve the control of hazardous wastes that are introduced into POTWs. Regional controls are now being proposed under the Great Lakes Initiative pursuant to the Great Lakes Critical Programs Act. These will drive discharge permit limits in the Great Lakes system lower than anywhere else in the country.

Overlaying all of these new and ongoing programs are enforcement provisions that were considerably strengthened during the 1987 amendments. Both civil and criminal penalties were increased and additional administrative penalty authority was provided. Enforcement of the Clean Water Act has increased since 1987 as a result of this new authority. In particular, administrative actions have increased significantly since 1987.

What all this activity suggests is that the development of pollutant discharge limits (technology-based, water quality based and toxicity based) under the CWA is an evolutionary, ongoing process. It will continue to occur in accordance with existing statutory mandates, even if Congress takes no further action to address improvements to water quality. Since the last reauthorization in 1987, industrial point source dischargers have been implementing and complying with many new, as well as ongoing, regulatory programs. Many of these new programs

were developed specifically to address the problems caused by toxic pollutants. Effluent guidelines for the chemical industry also focus largely on removal of toxic pollutants. The effects of all these programs on the environment will undoubtedly be positive, but because their implementation has not yet been completed, their full impact is still impossible to assess. CMA urges Congress to allow time for these programs to take effect before assessing the need for additional requirements.

### III. Pollution Prevention in the Clean Water Act

CMA supports the goals of pollution prevention and the hierarchy of environmental management practices described in the Pollution Prevention Act of 1990. Under this hierarchy, source reduction activities are the preferred method of preventing pollution, followed by recycling activities and finally, by treatment. It has been suggested that this pollution prevention hierarchy should be "introduced" into the Clean Water Act by supplementing the Act's existing emphasis on end of pipe treatment with source reduction or recycling/reuse requirements.

Before embarking to impose additional pollution prevention requirements in the Clean Water Act, CMA urges this Committee to first explore two questions with more deliberation. The first question is: does the Clean Water Act already force pollution prevention decisionmaking? The second question is, if Congress decides to add new pollution prevention authority to the Clean Water Act, what

barriers to pollution prevention exist in the Act that require removal in order to achieve additional pollution prevention?

**A. Consideration of Pollution Prevention Is Already Occurring Under the Clean Water Act.**

CHA believes that the answer to the first question is an absolute affirmative. The characterization of the CWA as solely an end-of-pipe treatment program is wrong. In our view, pollution prevention includes all environmental management practices that reduce the volume or toxicity of pollutants released to the environment or generated as wastes. These practices include the hierarchy of source reduction, recycle/reuse and treatment. Because of Clean Water Act requirements, the wastewater volumes of many industries have shown marked decreases over the years as facilities sought to come into compliance with applicable guidelines.

In addition, when facilities seek to comply with discharge limits, they do not look solely to end-of-pipe treatment to achieve the limits; they also look inside the manufacturing process to determine whether the limits could be met by making changes there. Along with technological feasibility, probably the two major determining factors in a facility's decision whether to treat at the end of the pipe or to reduce a pollutant at its source are maintenance of product quality and economics. These facts must be taken into account in considering the concept of pollution prevention during the CWA reauthorization debate.

Many of CHA's member companies use pollution prevention practices other than end-of-pipe treatment to meet the CWA's effluent guidelines for the organic chemicals, plastics, synthetic fibers point source

category. For example, DuPont invested over \$10 million in pollution prevention projects at its Deepwater, N.J. facility. These projects included a variety of recovery and waste generation reduction steps. Together with some treatment upgrades, these projects reduced about one million pounds per year of toxic pollutants from the feed to the wastewater treatment plant. Similarly, at its Belle, W.Va. plant, Dupont implemented ten source reduction programs in order to meet the effluent guideline limits for both conventional and toxic pollutants. These included such waste elimination steps as solvent substitution and product recycling. With treatment plant upgrades, the final result was a 50% reduction in total organic load to the wastewater treatment plant, including nearly complete elimination of three organic priority pollutants from DuPont's discharge.

There are many other examples similar to these. In addition, the water quality-based requirements of the Act that are becoming an increasingly significant portion of the CWA's regulatory program will also force companies to consider pollution prevention alternatives. Industry often cannot "just add treatment" to comply with these standards because these standards aren't based upon either treatment technology availability or economic achievability.

While these examples illustrate that the existing CWA's requirements are already forcing pollution prevention decisionmaking, they also illustrate the point that pollution prevention decisions are site specific and pollution prevention projects are nontrivial. Each of DuPont's projects had to be individually tailored in light of conditions at each plant. The lesson to be gleaned from these experiences should be familiar: just as EPA does not prescribe the

treatment technology that industry must use to comply with the CWA's effluent guidelines, any "requirements" for pollution prevention that Congress may consider should not specify the technologies that must be used. To do so would stifle innovation in development of new manufacturing processes and new products. It would put EPA in the inappropriate role of industrial decisionmaking. Related to this, it is CMA's view that any "requirements" for pollution prevention should not force any single type of pollution prevention practice over another for the same reason. Industry should be encouraged to employ source reduction before recycling and before treatment, but industry should not be required to employ any one of these practices over another. Pollution prevention should be driven by results, not by strict conformance to the hierarchy of environmental management practices. Site specific factors and cost effectiveness must be considered in any pollution prevention decisionmaking. Similarly, industry's pollution prevention progress should not be measured according to the type of environmental management practice that it employs, but rather according to the reductions it achieves in releases to the environment.

For these reasons, CMA supports voluntary, cross-media pollution prevention programs. Voluntary pollution prevention is already occurring as a result of reporting statutes like EPCRA and the Pollution Prevention Act and voluntary programs like EPA's 33-50 program and CMA's Responsible Care® program. CMA believes that the hierarchy of environmental management practices can be achieved in conjunction with existing environmental regulations including the Clean Water Act. Pollution prevention beyond what's already occurring under existing statutes should be voluntary to allow creative development of

the infinite variations in methods of achieving prevention of pollution. Pollution prevention should be encouraged, not mandated, both because source reduction and recycling opportunities are decidedly site specific decisions and because EPA has insufficient resources to examine the multitude of industrial manufacturing processes to judge whether source reduction/recycling practices are feasible in particular facility circumstances. Rather than attempting to "command and control" source reduction and recycling practices that industries are already examining, EPA's resources would be better spent focusing on the remaining significant sources of water quality impairment.

#### B. Barriers to Pollution Prevention

Under the existing single media approach to environmental protection, each statute contains its own peculiar set of requirements and procedures. Each statute brings differing degrees of flexibility. These differences raise the potential for serious conflict among these statutes in any serious attempt to layer cross-media pollution prevention requirements on top of each statute.

Under the Clean Water Act, the antibacksliding and antidegradation provisions are perhaps the most inflexible provisions in the Act. While the objective of these provisions is commendable -- to prevent backsliding from limits that had been achieved and to maintain existing water quality -- arguably these provisions can discourage pollution prevention. For example, for a facility to achieve a significant reduction in the amount of one pollutant that it discharges, it may be desirable to substitute a different material in the manufacturing process. Use of this material, however, may result in an insignificant

increase in the level of another pollutant in the facility's wastewater. If this slight increase will cause the facility to exceed its discharge limit for that pollutant, then the substitution cannot and will not be made, despite the environmental benefit that would result from the significant reduction in the pollutant from the discharge. The provision that prevents a facility from obtaining a less stringent permit limit is the antibacksliding provision at Section 402(o) of the Act. Another provision which EPA has interpreted so rigidly that it affords little flexibility in the requirements of the Act is the Fundamentally Different Factors (FDF) variance provision. EPA has granted so few FDFs over the years that it is not viewed as providing any real relief from the technology-based effluent limitations. The result can be, again, to discourage rather than encourage pollution prevention.

For example, in one of CMA's member company's facilities, a plant has installed two pollution prevention projects as part of the company's voluntary pollution prevention program. These have reduced the concentration in the plant's effluent of a pesticide active ingredient by 64 percent. This complex facility is subject to OCPSF, pesticide and inorganic chemical effluent limitations. The pesticide guidelines are currently under development at EPA and therefore the company is subject to Best Professional Judgement limitations for this category of pollutants. The company is currently evaluating a third pollution prevention project for that plant which, in addition to potentially reducing the concentration of the active ingredient in the effluent, is projected to also reduce total dissolved solids (TDS) and chloroform discharges from the plant by 3.5 million and 1000 pounds per

year respectively. However, EPA's proposed pesticide effluent guidelines would impose such low levels on this active ingredient that the company may NOT be able to install the pollution prevention project and ensure compliance with that level. The result will be no additional reductions in TDS and chloroform in exchange for a slight reduction in the discharge of the active ingredient.

In contrast to the other examples cited above that illustrate how effluent guidelines are forcing industry to seek pollution prevention alternatives to compliance, this example illustrates the rigidity of the current Clean Water Act requirements. While EPA might suggest that this company obtain a Fundamentally Different Factor variance so that it could obtain a variance from this one effluent limitation and so pursue this pollution prevention project, EPA has granted so few FDFs that this alternative is practically no alternative at all. The hurdles for obtaining an FDF have been set so high that it offers no real relief.

Barriers to pollution prevention like these are another reason CMA believes that pollution prevention should only be encouraged, not mandated. If Congress wants to encourage more pollution prevention, therefore, it should look for incentives for additional pollutant reductions AND it should look for ways to remove the barriers to pollution prevention that exist in each of the single media statutes.

#### 1. Incentives to Pollution Prevention

Some of the incentives to pollution prevention that Congress might consider during reauthorization of the Clean Water Act include market incentives such as tax credits, accelerated depreciation schedules, and

tradeable credits. Another type of incentive for pollution prevention might relate to the permitting process itself, such as streamlined permitting or streamlined monitoring requirements where pollution prevention projects are undertaken. Alternative compliance strategies also might be considered to allow facilities the time to implement innovative pollution prevention methods that result in greater protection of human health and the environment than could be achieved under the existing command and control regulatory regime.

Positive incentives such as these could help encourage pollution prevention beyond what's already occurring under existing laws. CMA believes positive incentives would achieve further reductions in wastes and releases to the environment more effectively than additional regulatory control measures.

Negative "incentives" such as effluent fees or taxes, however, would be inappropriate because they would apply across the board unfairly, without consideration of efforts a facility may have already made to reduce its discharges. Further, taxes or fees on discharges would raise the cost of U.S.-based production and harm the international competitiveness of U.S. manufacturing.

## 2. Removing Barriers to Pollution Prevention in Clean Water Act

There are many potential barriers to cross media pollution prevention in the Clean Water Act. Two of these mentioned above are the antibrackling and antidegradation provisions of the Act. EPA's restricted implementation of the Fundamentally Different Factor variance provision of the Act similarly stands in the way of innovative pollution prevention decisions. Although there are other variance

provisions in the Act, (e.g., Section 301(g)'s variance from technology based standards for five specific nonconventional pollutants if all applicable water quality standards can be met; Section 301(c)'s variance for economic hardship, applicable only to BAT limits for nonconventional pollutants; Section 301(k)'s variance allowing up to two additional years for compliance with effluent limitations for innovative technology that will result in greater effluent reduction than is required) few of them have provided enough relief from the requirements of the Act to actually encourage more pollution prevention.

On its face, the innovative technology variance provision (Section 301(k)) suggests an approach that may be applicable in the pollution prevention context. However, its additional two years compliance time is insufficient. Developing, testing and assuring compliance from innovative production processes or control techniques requires considerably more time than 2 years. Further, requiring there be a determination that the innovative system has the potential for industrywide application limits the usefulness of this provision considerably given the facility specific nature of pollution prevention techniques.

The inflexibility of compliance schedules under the Act is another key deterrent to industry to develop alternative pollution prevention means for meeting permit limits. But for the limited variances described above, compliance with BAT limits must be by March 31, 1989 or within three years of promulgation of an effluent guideline. Source reduction activities such as equipment or technology modifications, process modifications, redesign of products, and substitution of raw

materials or catalysts all involve a long payback on investment. Product quality is also a key factor in determining whether these types of pollution prevention projects are practical. In other words, it takes more time to undertake these types of practices because, at least in diverse industries like the chemical industry, they are likely to be very facility-specific and thus they have not been demonstrated (unlike treatment technology). Complex recycling also involves product quality considerations and takes much time to test and develop to standards that can assure compliance with permit limits. Driving all of these considerations are, of course, enforcement provisions under which dischargers are subject to strict liability for exceeding their permit limits.

In conclusion, while increasingly stringent permit limits are already forcing industry to look for methods other than end of pipe treatment to meet these limits, there are implicit in the Clean Water Act (as well as in other single-media environmental statutes) many restrictive provisions that discourage rather than encourage pollution prevention. If Congress is serious about adding pollution prevention authority to the Clean Water Act, it must seriously wrestle with the inherent inflexibilities in the Act that will stand in the way of real progress in further reductions of wastes and releases. Pollution prevention is a concept that CMA has embraced with open arms. However, the inherent command and control nature of the CWA (as well as the CAA and RCRA), the single media focus of each of these statutes, and the many differing peculiarities of each of these statutes, are all in conflict with what pollution prevention must be to be successful: flexible, facility-specific, and multi-media.

## IV. Toxic Use Reduction

The Clean Water Act has in large measure focused on improving the quality of surface water in the United States through the reduction of pollutants discharged to waters of the U.S. As discussed above, how facilities meet standards to achieve these reductions in discharges has been the decision of the individual facilities. Treatment technologies may have been the method of choice for reducing pollution over the last 15 years -- largely because they have been the most cost effective techniques for achieving reductions -- but industry has always been able to choose alternative methods or to develop new treatment technologies to meet CWA limits. This principle should be maintained in any amendments to the Clean Water Act so as not to stifle innovation and progress in developing methods for reducing pollutants in discharges.

In recent years, a new concept has been promoted -- termed toxic use reduction -- which in the context of the Clean Water Act, represents a radical departure from the basic thrust of that Act. As CMA understands it, the objective of advocates of toxic use reduction is to reduce, or remove from commerce entirely, a list of chemicals. Unlike the Clean Water Act, the endpoint of toxic use reduction (TUR) is not releases to the environment, but the use of chemicals generally. If incorporated into the Clean Water Act, toxic use reduction endpoints would change the CWA from a pollution prevention statute to a toxics use control statute. CMA believes this change in focus is inappropriate and unwarranted.

In the last Congress, a Clean Water Act bill was introduced in the Senate -- S. 1081 -- which would have changed the entire focus of the CWA from a pollution prevention statute to a toxic use reduction statute. The bill inserted the phrase "toxic use reduction" into several existing provisions of the Clean Water Act, authorizing at a minimum consideration of this concept. The most egregious forms of TUR in S. 1081 were found in three sections of the bill. The first one would have amended the effluent guidelines provisions of the Act to require EPA to require changes in industrial processes, raw materials and products to achieve TUR when setting standards for industry to meet. Another provision would have targeted for prohibition from discharges certain listed chemicals, certain other unidentified chemicals, and chemicals that met an arbitrarily established level of bioconcentration. This provision required EPA to equate its prohibitions with a determination of unreasonable risk of injury to health or environment pursuant to Section 6(a) of TSCA, which would in turn have likely resulted in outright bans on these chemicals. Finally a third provision would have authorized POTWs to prohibit specific products in their service area. CWA opposed these manifestations of toxic use reduction in S. 1081 on grounds that: 1) they would stifle innovation in pollution prevention technologies because industrial decisionmaking would be replaced by government decisionmaking as to manufacturing processes, products and raw materials to achieve toxic use reduction; 2) the basis for the discharge prohibitions was arbitrary; and 3) the product ban authority would be unmanageable because it would involve products that are typically marketed and distributed over wider territories than the service area of the POTW.

CMA supports pollution prevention and the continuous reduction of wastes and releases to the environment. CMA opposes, however, arbitrarily mandated chemical use reduction/elimination programs, as well as policies, goals, planning and reporting intended to lead to such programs. Arbitrarily mandating toxic chemical use reduction fails to account for several facts. First, that many regulated chemicals are essential raw materials in the manufacture of most every beneficial product we depend on and enjoy today. Second, that major progress is being made in pollution prevention and diverting resources from pollution prevention to an ill-defined exercise in use reduction could diminish or halt that progress. Third, TUR as defined by its proponents is not pollution prevention; it is an ultimate strategy to reduce the use of chemicals based on the overly simplistic and incorrect notion that use of toxic chemicals equates to unreasonable risk. Fourth, that direct or indirect use reduction pressures can affect the ability of U.S. companies to compete in a world market. And finally, that public disclosure of manufacturing process and chemical use information would seriously undermine protection of intellectual property.

The Clean Water Act is a pollution prevention statute. CMA urges this committee to resist the simplistic arguments in support of toxic use reduction during the debate on reauthorization of the Clean Water Act. Congress should neither mandate nor authorize toxic use reduction in the Clean Water Act. Congress should not enact amendments to the CWA that would have as their end point the reduction in use of toxic chemicals.

## V. Other Issues in Clean Water Act Resuthorization

### A. Watershed Approach

The concept of protecting water quality on a watershed basis is gaining broad support. Among others, Water Quality 2000 endorsed it in their 1992 report. In an attempt to better control all the sources of water quality impairment, several states and EPA regions have implemented pilot programs for watershed protection and planning. These programs typically entail definition of the problems of watersheds; obtaining adequate scientific and technical data for all point and nonpoint sources; obtaining adequate effects data; and developing management and funding of a process to control all sources of impairment in a watershed. Because this is a more comprehensive approach to water quality problems, watershed protection and planning is likely to be a key element of any CWA reauthorization bill.

CMA believes that a well-crafted program for comprehensive watershed planning can be an appropriate approach to water quality protection of our nation's waterways. To be successful, however, CMA believes that several principles should be key considerations in any new program. First, such a program must allow for a cooperative effort among the stakeholders in a watershed and encourage public participation. Second, the problems of the watershed must be clearly identified. Third, states should prioritize the needs of the watershed on a rational basis. Fourth, watershed protection should ensure a long-term phased approach based on sound scientific and technical information available at the time. Fifth, equity should be ensured in terms of funding sources, entities to be controlled, and the extent of

such controls. Finally, a watershed protection and planning program should be implementable through an appropriate balance of incentives and enforcement.

Further, CMA believes that a watershed planning approach should supplant existing requirements to some degree rather than merely overlay additional burden on the regulatory authorities and the currently regulated community. For example, watershed planning decisions should be allowed to supersede certain existing restrictions, such as the Clean Water Act's anti-backsliding provision.

#### **B. Funding Issues**

A great deal of attention has been paid recently to the question of funding for government programs, including environmental programs. CMA could possibly support permit fees as a source of revenue for administration of the NPDES program, if the fees are targeted to pay only for the cost of processing permit applications. Targeting permit fees for purposes other than the cost of processing permit applications is unacceptable, because it would be asking permittees to pay for more than their share of the water program.

In developing a permit fee structure, CMA urges Congress to ensure that fees are based on the complexity of the permit, bearing in mind that in many instances the wastewater flow is not a measure of the complexity of a permit.

In contrast, CMA opposes fees or taxes on industrial discharges and on industrial, commercial and consumer products. In particular, CMA opposes taxing industry in order to pay for municipal wastewater treatment and infrastructure needs and for nonpoint source control

programs. Such proposals unfairly target industry to pay for non-industrial pollution and fail to consider the impact of discharge fees on U.S. manufacturing and trade.

### C. Non-Point Source Pollution

Non-point source pollution has been consistently identified by both EPA and the environmental community as one of the most significant causes of water quality impairment today. The problem of nonpoint source pollution is a difficult one to solve primarily because the sources of contamination are as numerous as the uses of the land, e.g., agriculture, hydromodification, urban and suburban runoff, mining/oil drilling, silviculture, waste disposal, construction, etc. These sources differ in the degree to which they contribute to the problem. Sources that are a problem in one part of the country may not be a problem in other parts of the country. The solutions to nonpoint source pollution, therefore, lie in local land-use decisions -- an area in which the federal government plays a decidedly supportive role to state and local governments. Developing solutions will not be easy because traditional means of point source reduction, e.g., standard setting, may be inappropriate in the nonpoint context.

Federal authority already exists in Section 319 of the Clean Water Act, in Section 6217 of the Coastal Zone Management Act (CZMA) Amendments of 1990, in Sections 3 and 6 of the Federal Insecticide, Fungicide and Rodenticide Act and in the 1990 Farm bill to deal with different aspects of this problem. Many of these programs have only recently been initiated and in many of them the federal role consists

of grants and guidance to the states. Unfortunately, funding for both the CWA and CZMA programs has been scarce or nonexistent.

CMA supports a risk-based approach to determining the appropriate focus of CWA reauthorization issues. All recent data suggest that nonpoint source pollution is a significant source of water quality impairment. However, Congress should seek to understand the many different sources and the varying contributions of different pollutants before proposing an appropriate legislative response. Congress should ask, too, whether better application and funding of existing programs would be sufficient. Nonpoint source pollution will not be an easy issue to resolve and Congress should not expect, or seek, quick solutions.

#### D. Contaminated Sediments

Under the Clean Water Act, the discharges of pollutants are controlled by incorporation of effluent guidelines and water quality standards into NPDES permits. The Act, therefore, controls present discharge activities to protect the human health and aquatic environment. It does not address the remediation of problems that may have resulted from past discharge activities or past run-off from nonpoint sources.

EPA is currently poised to propose sediment quality criteria. These criteria could be used as guidance by the states in developing their water quality standards. While there are many unanswered questions about the methodologies for establishing these criteria and their appropriate uses, including the appropriateness of using them to derive permit limits, there is little question that the

preventive/protective nature of these criteria appropriately conforms with the objectives of the Clean Water Act.

Some suggestions have been made, however, that the Clean Water Act should also address remediation of existing contaminated sediment. CMA opposes any attempt to add remediation authority to the Clean Water Act. Creating a whole new remediation program under this Act when experts still don't agree on what is "clean" sediment and what is "contaminated" sediment; what are the risks associated with contaminated sediment, or what is the most environmentally protective manner for remedying these problems, simply makes no sense. Such a major shift in the thrust of the Clean Water Act would be ill-advised from economic, scientific and general policy perspectives.

CMA believes that adequate authority already exists to address remediation of contaminated sediment on a site specific basis (e.g. CERCLA). CMA believes that EPA's developing sediment strategy reflects that there are adequate authorities for dealing with this issue. Congress should not create an entirely new -- and likely extraordinarily expensive -- program under the Clean Water Act at a time of limited resources, when there is not yet consensus that this is a nationwide problem or what the appropriate remedies may be.

#### **E. Great Lakes**

In 1990, Congress passed the Great Lakes Critical Programs Act (GLCPA) amending Section 118 of the Clean Water Act. The goal of the GLCPA was to establish minimum water quality requirements for the eight states in the Great Lakes system and to fulfill the objectives of the Great Lakes Water Quality Agreement between the U.S. and Canada. On

April 16, 1993, EPA proposed guidance for the Great Lakes system to implement the GLCPA. This proposal establishes ambient water quality criteria for the protection of human health, aquatic life and wildlife as well as antidegradation policies and implementation procedures for the waters of the Great Lakes system.

The regional approach of the Great Lakes water quality guidance and many of the policies and procedures being proposed are precedential in nature. EPA has solicited comments on whether the new approaches used in the proposal should be adopted nationwide. From our perspective, some of the more problematic issues relate to the calculation of water quality criteria values on the basis of insufficient data (Tier II values); extraordinarily prescriptive antidegradation procedures that may well mean no increased production by industries located on the Great Lakes and hence produce a no-growth effect on the economy of the region; EPA's first-time use of "bioaccumulation factors" to derive criteria for a new class of chemicals of concern; and untested or scientifically unproven implementation procedures.

Congress needs to be aware of the issues being played out in the Great Lakes region as a result of the 1990 GLCPA. These issues require public comment, EPA consideration of these comments and implementation before Congress should even consider nationwide application. Because Congress found in 1990 that the Great Lakes posed unique water quality problems, the Great Lakes will be the testing ground for many new theories on water quality controls. The time is not ripe, however, for Congress to adopt these untested measures for the rest of the nation.

Therefore, it is CHA's view that Congress should not incorporate these proposed regulatory provisions in CWA reauthorization.

#### F. Pretreatment

In July 1991, EPA presented its Section 519 Pretreatment Report to Congress. This report found that publicly owned treatment works (POTWs) have made "tremendous progress" carrying out and enforcing national and local pretreatment standards and requirements. It noted that many POTWs have achieved "significant reductions" in toxic pollutant loadings to their treatment plants and subsequent reductions of toxics in their effluents and sewage sludges. The report found that additional work was necessary in three areas: more water quality criteria and standards; continued development of national technology-based standards; and strengthening of controls by POTWs over toxic discharges.

The year before the report was issued, EPA promulgated new regulations to improve the control of hazardous wastes that are introduced into POTWs. These regulations impose broad new prohibitions, notification requirements and permitting requirements to control discharges of hazardous waste to POTWs. Implementation of these new regulations is already leading to strengthening of controls by POTWs over toxic discharges.

In recent weeks, EPA promulgated sewage sludge standards and regulations that will indirectly lead to greater controls by POTWs of discharges of toxic pollutants into their treatment works.

These new requirements are responsive to EPA's call for additional work. Overlaying these new programs are long standing general

pretreatment requirements, categorical pretreatment standards for certain industries, including the chemical industry, and local limits established by POTWs. Between the existing and new program requirements, EPA has the tools in place it needs to maintain and improve its pretreatment program.

Despite this fact, there has been criticism of the domestic sewage exclusion (DSE) under RCRA and how it relates to the Clean Water Act's pretreatment program and POTW discharges. This criticism has been founded in a claim that the DSE is a "giant loophole" through which hazardous waste is being discharged to POTWs unregulated. Under the DSE, any mixture of domestic sewage and other wastes that passes through a sewer system to a POTW for treatment is not considered to be a solid or hazardous waste under RCRA. Industrial facilities that discharge hazardous wastewaters to sewers containing domestic sewage must meet pretreatment requirements under the CWA, rather than BDAT requirements under RCRA.

CMA believes that any proposals to eliminate the DSE are misguided because they ignore the panoply of controls under the Clean Water Act that ensure that wastes discharged to POTWs are adequately treated prior to discharge. Industries must comply with EPA's general and categorical pretreatment standards and any local limits established by the POTW before they can discharge to the POTW. EPA itself concluded in its 1986 Domestic Sewage Study that the DSE should be retained and that the Clean Water Act is the appropriate statute for regulating discharges of hazardous wastes to POTWs. This conclusion was not changed in EPA's Section 519 Report to Congress in 1991. Before Congress considers any changes to the DSE during reauthorization of

the Clean Water Act, it must be careful to consider some important principles. First, the Clean Water Act should not require redundant treatment of industrial wastestreams, as this would be contrary to Congress' intent in the CWA. Second, RCRA BDAT standards were never meant to be applied to these industrial wastestreams. Due to interferences that result in combined wastestreams, applying BDAT land-ban standards to discharges to POTWs could mean unachievable standards or disruptive segregation of wastestreams. Finally, Congress must understand the differences between RCRA and the CWA. These two regulatory regimes apply to different types of waste characteristics. RCRA regulates "solid waste" and "hazardous waste" while the Clean Water Act regulates the discharge of "pollutants." As a result of these differences, standards applied to wastes regulated under RCRA may not be applicable to pollutants regulated under the Clean Water Act. These differences must be considered and appropriately addressed if Congress considers changes to the DSE during reauthorization of the Clean Water Act.

Finally, while CMA agrees with EPA that the national pretreatment program is effective, much redundant treatment is now occurring by industry and municipal treatment works because of the unavailability of removal credits. Since sludge disposal regulations have been issued regulating certain pollutants, removal credits should be available for these pollutants. But there are many other pollutants for which POTWs maintain good treatment. CMA believes that removal credits should be available for all pollutants that are effectively treated by POTWs, not just those pollutants for which EPA publishes sludge standards. Congress should address the question of the availability of removal

credits in this reauthorization to alleviate the redundant treatment that is now occurring.

#### G. Water Quality

Since the 1987 amendments, EPA has been busily developing a variety of new tools for use by the states to protect ambient water quality for designated uses. These range from chemical-specific water quality criteria (aquatic life and human health), sediment criteria, and wildlife criteria, to effluent toxicity methods and biological criteria assessment methods. More and more, these tools are defining the water quality programs of the states.

Most recently, EPA promulgated the National Toxics Rule. This rule established water quality standards for toxic pollutants in 14 states that in EPA's estimation had not complied with the requirements of Section 303(c)(2)(b) of the Clean Water Act. Now all the states have water quality standards for toxic pollutants that meet the requirements of that provision of the Act. The comment period on that rule was a mere 30 days, but it was the first official notice and comment rulemaking provided on EPA water quality criteria. Up to now, EPA had issued these criteria only as guidance documents for the states.

CMA urges Congress to require that all water quality criteria, including sediment criteria, wildlife criteria, biocriteria, etc. that are used to develop state water quality standards and permit conditions, be subject to adequate notice and comment rulemaking and judicial review pursuant to the Administrative Procedures Act. Only through such an amendment can Congress be assured the criteria will be based on sound science and that EPA will be responsive to comments.

Such an amendment is also critical if EPA embarks on a new ecosystem or watershed approach in the next phase of water quality management.

CMA also believes that Congress should provide an explicit exception to the antibacksliding provision of the CWA (Section 402(o)) where a technology based or water quality based limit cannot be met and the water quality criterion has been raised as a result of additional or improved data. In addition, it should be clarified that the antibacksliding provision is not intended to preclude increased production and that higher limits may be allowed where such a limit does not impair the designated use of the waterbody and where necessary to accommodate such increased production.

Finally, with respect to aquatic biomonitoring techniques, CMA believes that such techniques can be useful in understanding the impact of a discharge on aquatic life. However, CMA also believes it is inappropriate to establish numerical toxicity limits in discharge permits prior to performing a series of sequential steps involving performance of an aquatic impact assessment and determination of the appropriateness of performing a toxicity reduction evaluation. The CWA should be amended to reflect this concept.

#### R. Enforcement

The Clean Water Act contains ample enforcement authority. The Act authorizes the imposition of significant civil and criminal penalties for violations of its mandates. For example, Section 309(d) provides for civil penalties up to \$25,000 for each and every day of violation. To put this into perspective, it is important to recall that most discharge permits contain both daily maximum and monthly average

discharge limits. Because the violation of a monthly average limit is considered to be a violation during each day of the month, a single exceedance of a monthly average limit during a 30-day month exposes a discharger to a civil penalty of \$750,000. The maximum monetary penalties for criminal offenses are even higher than the civil penalties, and prison terms may also be imposed for such criminal offenses. See CWA Section 309(c). Criminal enforcement has increased dramatically in the past few years. These civil and criminal penalties may be imposed by the government both for ongoing as well as past exceedances.

In addition to civil and criminal enforcement authority, EPA is also authorized by the 1987 amendments to the Act to impose administrative penalties. Class I administrative penalties up to \$25,000 may be imposed under Section 309(g)(2)(A) with only minimal procedural safeguards for the discharger, making the imposition of such penalties comparable to the issuance of (expensive) traffic citations. Administrative penalties up to \$125,000 are also authorized by CWA Section 309(g)(2)(B), with an opportunity for an administrative hearing. This administrative penalty authority is being used more and more frequently by EPA. Enforcement orders may also be issued by EPA under Section 309(a) of the Act.

In addition, Section 311 of the Act establishes an entirely separate enforcement scheme to address spills of oil or hazardous substances. Spills of hazardous substances may also be subject to enforcement actions under the Comprehensive Environmental Response, Compensation and Liability Act, commonly known as Superfund. Superfund authorizes the government to recover not only the costs of any

necessary clean-up action, but also natural resource damages and treble damages for non-compliance.

As a supplement to this extensive governmental enforcement authority, Section 505 of the Clean Water Act authorizes citizens to bring enforcement actions against dischargers who are alleged to be in violation of the Act. In interpreting Section 505, the Supreme Court correctly noted in the case of Gwaltney of Smithfield, Ltd. v. Chesapeake Bay Foundation, 484 U.S. 49 (Dec. 1, 1987) that "the citizen suit is meant to supplement rather than to supplant governmental action" (Id. at 60) and that the purpose of the citizen suit provision is "to abate pollution when the government cannot or will not command compliance." (Id. at 62). Thus, while citizen suits may be brought against dischargers where violations are ongoing, in order to provide a mechanism for bringing such dischargers into compliance, they may not be brought for purely punitive motives to address wholly past violations.

CMA believes that because the Clean Water Act includes more than ample enforcement authority -- both for governmental enforcement authorities and citizen groups -- it is not necessary for Congress to amend the Act to add enforcement authority. Additional authority would be counterproductive in many instances. For example, Senate proposals from the 102nd Congress to increase CWA enforcement authority for citizen groups and to add enforcement authority for natural resource damages resulting from a discharger's violation would have resulted in more litigation, for dubious environmental benefit. Further, neither provision is needed to address violations of the Act's requirements.

## VI. Conclusion

CHA would like to thank the Subcommittee for this opportunity to provide observations on a very important statute. Existing Clean Water Act programs have been successful in reducing pollutant discharges and promise more success in the future. Pollution prevention is already occurring. If Congress wants more pollution prevention to occur, Congress needs to consider ways to make the Act more flexible. Finally, CHA urges Congress in this reauthorization to focus its attention on significant remaining problems and on appropriate solutions that ensure continued improvements to our nation's water quality.

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STATEMENT

on

REAUTHORIZATION ISSUES UNDER THE CLEAN WATER ACT OF 1987

for submission to the

HOUSE PUBLIC WORKS AND TRANSPORTATION COMMITTEE

SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT

for the

U.S. CHAMBER OF COMMERCE

by

Frank H. Hackmann\*

May 12, 1993

The U.S. Chamber of Commerce appreciates this opportunity to offer its perspective on the Reauthorization of the Clean Water Act of 1987 (Act).

There has been great progress in cleaning the streams and rivers of the country over the last twenty years. Because of this progress, the Chamber believes that major revisions to the Act are not needed. This testimony will, however, encourage marginal, needed changes in keeping with the history of federal legislation and enforcement in this area.

An appropriate historical perspective is invaluable when addressing issues as fundamental to the environmental, social, and economic future of America as those addressed in the Act. The extension of federal regulation to maintaining clean water is generally considered to have begun with the nearly unanimous passage of the Federal Water Pollution Control Act of 1972, although the roots reach back to the 1899 Refuse Act.

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\* Partner, Sonnenschein, Nath and Rosenthal, and former Chairman, U.S. Chamber of Commerce Water Quality Subcommittee.

(2)

The 1972 Act set forth some basic principles which remain the guiding lights today.

- Any discharge to the waters of the United States is unlawful unless expressly permitted (or otherwise exempted).
- Permits issued to dischargers shall state with detail the permissible discharge components and concentrations, with violators being subject to both civil and criminal prosecution, as well as citizen suits.
- All discharges are generally required to use a specified level of control technology, whether or not that technology is necessary to meet receiving water quality.
- Dischargers can also be made to provide tighter levels of treatment in order to meet applicable receiving water quality standards.
- There is a major federal funding rule to assist municipalities in discharging their obligations under the law, although the lack of federal funds is itself not a defense to noncompliance.
- Specified areas of concern, such as nonpoint source pollution and area-wide watershed issues, are dealt with in a somewhat different fashion — but are addressed in a manner that was acceptable to Congress.
- Different standards are needed for the so-called conventional pollutants and the so-called toxic pollutants, with appropriate standards for each.

(3)

- Water pollution control laws need to be coordinated with the remainder of the federal regulatory scheme on issues such as on-land sludge disposal, sludge incineration, etc.

In general, over the years the Chamber has supported these basic concepts, although it has disagreed, sometimes strongly, with specific items or amendments. Often this disagreement was over the means to reach the goals, rather than the goals themselves.

These principles are especially relevant to issues impacting small businesses and their compliance efforts, and should be used as a guide in developing further changes to the Clean Water Act. As much as possible, regulatory guidance should be clear and comprehensible, so that the regulated community understands what is expected, why it is expected, and how it can be done in the real-world context of a business operation.

### Progress

Overall, the Chamber believes the Clean Water Act has worked reasonably well, especially as compared to some other programs. While the Act is far from perfect, it does seem to be fairly well understood and well accepted in the business community. Because of improved measurements, such as the ability to detect parts-per-billion of contaminants in water, there is a misconception that water quality is deteriorating. More than 75 percent of the nation's lakes, rivers and streams meet strict water quality standards based on their intended use. As Congress begins the reauthorization process, it should not overlook the considerable improvements in water quality achieved under existing law. Many of the new water quality requirements under the 1987 amendments have just begun to take effect, while others are still being implemented.

(4)

**SELECTED SPECIFIC ISSUES WITHIN THE  
REAUTHORIZATION OF THE CLEAN WATER ACT**

The major concerns business and industry have about the Act reflect issues such as wetlands definition, extensive stormwater control, further implementation of water quality standards, and the apparent use in evaluating risks of placing one conservative assumption upon another resulting in significant overstatements of risks.

As noted, the Act clearly has made our waterways cleaner and our environment better. However, disruption or drastic changes in the basic framework of the statute would only cause further delays in the progress being made.

Toxic Control

A popular proposal in controlling the discharge of toxic substances is to simply ban their discharge. This concept is not wise public policy. While a "no discharge standard" may have superficial political appeal, it is often technologically or economically impractical or even unworkable, and even if complied with may not provide a net overall benefit. A more appropriate and realistic public policy will acknowledge the efficacy of treatment technologies and the relative effects of various contaminants when discharged into different media, and seek to minimize any negative environmental effects. This must be done without losing sight of other national goals, including economic factors.

Bans or restrictions on the use or production of materials without a determination of unreasonable risk to health and environment, consideration of the magnitude of exposure, societal benefits and economic consequences, are contrary to the Pollution Prevention Act of 1990. Industry innovations, voluntary efforts and market-based incentives are more effective ways to attain environmental protection and making progress in finding optimal solutions for reducing discharges to our nation's waters.

(5)

### Sound Science

The Chamber supports the use of credible science and economic considerations in setting, revising, and implementing discharge permits and related standards.

Occasionally, the EPA will determine that a different technology standard or permit limits should apply when a permit is renewed. If what otherwise appears to be a "weaker" standard is nonetheless based on sound science and applicable regulations, sound public policy is not served by refusing to acknowledge the new facts, situations, standards, and regulations.

A National Pollutant Discharge Elimination System (NPDES) permit should be able to be modified upward, just as it can now be modified downward. There is no reason to be forever shackled to past understanding, errors, or good-faith misjudgments in issuing and reviewing permits.

### Pollution Prevention

While the Chamber strongly endorses the overall concept of pollution prevention and waste minimization as integral parts of industrial operations, it is opposed to specific statutory mandates. The reason is that our past experience with a variety of environmental laws has shown the difficulty of translating specific numerical statutory goals into reality at the level of an operating. Clearly the statutes should encourage the EPA and industry to move forward in efforts to make sensible, further reductions in pollution. However, the costs, both economic and social, associated with such decisions cannot and should not be ignored by Congress. Industry innovation, voluntary efforts and market-based incentives are more effective ways to attain environmental improvements and protection than is legislative prescription.

### Removal Credits

The Chamber supports the continued use of removal credits for chemicals with categorical pretreatment standards consistent with the current legal framework regulating a municipality's use and operation of its sewage system. We recognize there is a significant potential problem related to sewage sludge disposal; there is an interrelationship between sewage sludge disposal regulations and removal credits regarding toxic material levels. However, it is not necessarily more advantageous to force users away from heavy reliance on large, central publicly owned treatment works for their treatment needs. Increasing the number of small pretreatment facilities, particularly at smaller industries, in an effort to meet unreasonably stringent sewage sludge disposal regulations may not represent the best overall environmental outcome. For example, multiplying the number of regulatory sources of concerns could strain the enforcement mechanism. Thus, while we understand the tension between the removal credit and sewage sludge disposal issues, we caution against setting sewage sludge standard so stringent that many types of common and historically acceptable industrial dischargers would face difficulty with continued sewer use while providing a traditional level of pretreatment.

### Wetlands

The Chamber supports the goal of "no net loss" of the nation's remaining wetlands because they provide essential ecological functions such as water purification, wildlife habitat, flood control, and food production. However, wetlands should be designated as such only if they display the three traditional indicators: saturation, hydric soils, and hydrophytic vegetation. Wetlands also should be classified according to their value or function. Owners of property who are adversely affected by the designation of wetlands should be compensated. The Chamber also supports mitigation banking, as a market-based solution, to help achieve the goal of "no net loss" of our true wetlands.

Compliance Should Be Made Easier, Not Harder

One major concern of the Chamber is that many portions of the EPA programs, laws and regulations are nearly incomprehensible to the practicing professionals, and even more so to the small businessman or small manufacturer where the bulk of America's jobs, and job growth, reside. In addition, regulations under the different statutory authorities are not coordinated, creating conflict and duplication. A number of the so-called toxic and nonconventional pollutants are ubiquitous materials found nearly everywhere in our society. Therefore, further regulations of these materials will vastly increase the number of regulated indirect users, diffuse the enforcement ease with which significant problems can be identified and handled, and create the potential for less, not more, environmental protection.

Government should not make it unnecessarily difficult for the regulated community to do what is desired. For example, further pretreatment controls and the removal of the domestic sewage exemption, will have three major adverse consequences with no corresponding environmental benefit:

- Proliferation of small on-site "pretreatment" plants, each of which would be added to the NPDES permit system, at least in some fashion.
- A corresponding increase in the universe of hazardous waste generators, because any on-site treatment residuals or users affected by loss of the "Domestic Sewage Exemption" who would therefore become subject to the RCRA system.
- Dilution of enforcement effort by converting centralized treatment plants which can be assessed and monitored relatively efficiently,

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into a larger and much harder-to-track universe of regulated sources.

### Summary

The Chamber believes that the basic structure of the Clean Water Act is working well, and that no radical changes are necessary or appropriate. Progress has been made in cleaning up and managing our water resources, and we do not dispute that more needs to be done to solve the remaining problems. To meet these challenges in a cost-effective and equitable way, Congress should consider the following criteria as part of any reauthorization effort:

- sound science and economic considerations as the basis for discharge limits and cleanup priorities;
- equitable and flexible regulations, where needed, for all sources;
- recognition, within state and local water-quality standard determinations, of the need for economic growth; and
- limitation of permit-application costs, monitoring requirements, and paperwork burdens.

The Chamber looks forward to working with committee staff as Congress deliberates the reauthorization of the Clean Water Act. A consistent approach, with a view toward pursuing a broad public policy designed to further a variety of national goals, both environmental and economic, will greatly contribute to the nation's ability to compete effectively in the domestic and international marketplace while making continued improvements in our water resources.

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**Improving Water Resource Management in the United States:  
Suggestions for Reauthorizing the Clean Water Act\***

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Testimony Before the Subcommittee on Public Works and the Environment  
U.S. House of Representatives

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Improving Water Resource Management in the United States:  
Suggestions for Reauthorizing the Clean Water Act\*

Robert W. Hahn

1. Introduction

Thank you for inviting me to testify.

The purpose of my presentation is to persuade you that there is an alternative to traditional water quality regulation that is, as the commercial says, "less filling and tastes great." We now have the know-how to achieve improved levels of water quality at lower cost to the public, provided that you are willing to embark on a new approach to regulating water.

I have spent the last ten years trying to develop and implement more effective approaches for resource and environmental management throughout the world. A central focus of my recent work has been on the development of economic approaches for improving water quality and water management. I attach an op-ed from the New York Times that illustrates the kind of market-based approaches that I would like to see encouraged in the reauthorization of the Clean Water Act. It is a proposal to reduce phosphorus loads to the Everglades through introduction of a market in transferable restoration credits. The proposal is very similar in structure to the 1990 Clean Air Act provisions for cutting sulfur dioxide emissions by 10 million tons. The idea is to give industry greater flexibility in achieving ambitious environmental goals, thus saving money and, in some cases, jobs.

I would like to begin my presentation with a quotation from a great, and now defunct, economist. Joan Robinson once asked: "Why is there litter in the public park, but no litter in my back garden?" The answer, of course, lies with incentives -- each of us has a direct incentive to keep our backyard clean. And while each of us would like to see the park kept clean, we would prefer that other people do it while we are out on the beach getting a sun tan.

The same problem arises in managing U.S. water resources, the subject of my remarks today. Because we collectively own most of our major water bodies, none of us has an incentive to take care of these resources the way we would take care of our own home. The problem for Congress is, thus, to change the incentive structure so that individual consumers, governments, and businesses have a direct stake in taking better care of our precious water resources.

There are basically two approaches to changing the incentive structure to achieve better management of water resources. The first is to sell off major public waterways, including rivers, lakes and streams. Putting these assets in private hands has the potential to improve their use provided property rights for both water

quality and quantity are well-defined and enforceable. In this case, the new owners of these assets would have a very strong incentive to treat these water resources just like they treat their own backyard. That is, they would have an incentive to keep the water body clean and allow people to use the water body only if they paid a price that reflects the value of the resource.

Privatizing water resources could also start a political firestorm, if not a revolution. Thus, I will not advocate it here today.

Instead, I will focus on a second approach to improving the management of resources -- the introduction of "economic" approaches for improving the public management of water resources. Within the economic approach, there are two fundamental issues that need to be addressed -- the first is the identification of appropriate goals for water quality and water use; the second is to choose appropriate methods for achieving goals.

The choice of goals for water quality should depend, among other things, on the economic benefits associated with consuming or using the water resource as well as the economic costs of providing that resource. The benefits include preservation of species habitat, recreational uses such as fishing, swimming and boating, commercial uses, the ability to use the resource as a drinking water supply, and the satisfaction that comes from knowing waterways are clean.

## 2. Introducing Cost-Benefit Analysis

In conventional cost-benefit analysis, standards are intended to be set so that the incremental benefit from cleaning up the water just equals the incremental cost. Admittedly, these concepts are difficult to quantify, particularly on the benefit side. Nonetheless, it is absolutely imperative that efforts be made to quantify these concepts if clean water policy is to be developed in a way that is likely to lead to improvements in our standard of living.

The U.S. Environment Protection Agency (EPA) has not devoted significant resources to developing analyses that suggest where regulatory efforts are best focused under the Clean Water Act. The most comprehensive analysis of the benefits and costs of current plans to achieve the objectives of the Clean Water Act has been performed by Lyon and Farrow (1993). These authors argue that in many current implementation plans, the incremental costs of improving water quality exceed the incremental benefits. This means that many of the standards and regulatory methods that EPA has promulgated to date may be wasteful in the sense that they actually lower our average standard of living. At the same time, there may be specific instances of heavily polluted and/or heavily used water bodies where significant improvements in water quality are well worth the cost.

The preliminary results by these authors and results from earlier studies suggest that more attention needs to be given to doing cost-benefit analysis so that Congress can be certain we are focusing on the right water problems in the right water bodies.

Recommendation 1: EPA should commission a state-of-the-art cost-benefit analysis of the current Clean Water Act by scientists and social scientists so that the political debate on Clean Water Act reauthorization can be better informed. This analysis should attempt to point out where standards could benefit from tightening and where standards could benefit from being relaxed.

The analysis also should identify key areas of uncertainty in the estimation of benefits so that decision makers can make more informed decisions about appropriate standards. At present, relatively little is known about the dose-response function for many water contaminants or how people value clean water that they, themselves, may not use.

Recommendation 2: EPA should develop a database that permits a more refined assessment of the benefits and costs of the Clean Water Act.

EPA should be required to submit a report to Congress every two years that addresses the benefits and costs of controlling different pollutants in different waterways.

The second recommendation is similar to a provision in the 1990 Clean Air Act Amendments, which calls for a cost-benefit analysis of selected statutes in the Act. Without such information, Congress will not be in a position to make informed decisions about the economic consequences of their proposed statutes.

### 3. An Overview of Economic Incentives

Once a standard has been chosen, the question arises as to what is the least costly way of achieving that standard. One way is to prescribe a technology that each company in an industry must use. This is sometimes referred to as "command-and-control" regulation. Command-and-control regulation has been criticized by economists because it does not leave businesses and individuals with much choice in how they achieve an environmental target. For example, a law may require that a power plant use a scrubber to reduce air pollution, regardless of whether another technology or group of technologies might be more effective in achieving the same level of air quality.

Economists have argued that many pollution problems can be addressed

more effectively through the introduction of economic incentives. The idea behind using economic incentives is to save resources while achieving a particular environmental goal. For example, in 1990, the Congress adopted an economic incentive approach for limiting acid rain that could save society as much as \$1 billion annually when compared to a conventional command-and-control approach that required the largest polluters to install scrubbers.

There are many different kinds of economic incentive approaches. They include the use of subsidies, taxes, deposit-refund schemes, marketable permits, and the removal of institutional barriers that lead to price distortions. In the interest of brevity, I would like to focus on charges (taxes) and marketable permits.

Charge systems impose a fee or tax on pollution. For example, a chemical manufacturer would be charged for every unit of pollutant that it discharged into a river. Several European nations, including France, the Netherlands, and West Germany currently use water pollution charge systems.

Pollution charges, by themselves, do not restrict the amount of pollutants that may be emitted; rather, they tax emissions. Such fees ensure that a firm will internalize the previously external pollution costs and be forced to perform a profit and loss calculation in order to respond efficiently to the fee. A firm has many options. It might decide that it is in its interest to pay the fee, completely eliminate the discharge, or partially reduce the emission.

The advantage of the fee system is that all businesses face the same incentive to limit pollution at the margin. A firm will control pollution up to the point where the marginal cost of control just equals the fee. The result is that the total costs of pollution control are minimized, when compared with other methods of allocating the pollution control burden across businesses. Pollution charges, like other market-based mechanisms, also provide ongoing incentives for businesses to develop and adopt newer, better pollution control technologies.

One problem with emission charge systems is that governments do not know in advance what level of cleanup will result from any given charge. This problem stems from a lack of knowledge about how businesses will respond to a given level of taxation. Governments do not have the information to determine either an individual firm's pollution control costs or the distribution of costs across businesses. This inability to specify a target level of pollution that will be achieved does not, however, alter the reality that charges have the potential to achieve emission reductions at substantially lower cost than command-and-control regulation.

### Marketable Permit Systems

Marketable or tradeable permits can achieve the same cost-minimizing allocation of the pollution control burden as a charge scheme, while also avoiding the problem of uncertain responses by businesses. Under a tradeable permit system, the allowable overall level of pollution is established and then allotted to businesses and government entities in the form of permits. A business that keeps its emission levels below the allotted level may sell or lease its surplus permits to others.

As with a charge system, the marginal cost of control is identical across businesses and thus the total cost of control is minimized for any given level of total pollution control. In the case of local water pollution control, for example, this approach could be substantially more efficient than current regulatory methods, both because its inherent flexibility takes advantage of differences in control costs, and because it allows individual businesses to decide where and how to make desired reductions in loadings.

In the event that overall loading targets are viewed as too strict, the government may choose to increase the supply of permits. Likewise, in order to reduce allowable emissions, regulators could take the opposite stance and reduce the supply of permits.

Permit systems have been used primarily in the United States. Examples include: the Environmental Protection Agency's Emissions Trading Program for air; the nationwide lead phasedown in gasoline, which allowed fuel refiners to trade reductions in lead content; and the gradual phase out of chlorofluorocarbons in the U.S., where businesses are allowed to trade the right to produce or import limited quantities of these chemicals. In addition, several western states have implemented water quantity trading in limited forms. Some states also are considering water environmental credit trading programs to achieve least-cost approaches for controlling discharges from farms and municipal wastewater treatment plants.

#### 4. Encouraging the Use of Economic Instruments for Better Water Management

Congress could encourage EPA to implement both fee systems and marketable permit approaches. Because I believe fees are likely to encounter more political resistance, I believe Congress should promote more widespread use of marketable permits for improving water resource management.

The subsequent recommendations highlight the potential for encouraging greater use of marketable permits.

Recommendation 3: EPA should be required to implement marketable permits as the tool of choice for improving water quality, or justify in writing why it has not chosen this alternative.

The point of this recommendation is to encourage EPA to rely more heavily on market-based approaches for improving water quality rather than the command-and-control approach used for the last twenty years.

Recommendation 4: Congress should encourage EPA and the states to implement trading of environmental credits between point sources where technology-based requirements do not lead to the attainment of water quality goals (i.e., in "water quality limited" areas).

Recommendation 5: Congress should encourage EPA to allow for trading between dischargers whose effluent is then treated at a sewage treatment plant.

The point to point source trading between sources, such as municipal treatment plants and industrial sources, has the potential to save money and stimulate environmental innovation. So, too, does trading between dischargers whose effluent is treated at sewage treatment plants.

Recommendation 6: Congress should encourage trading with non-point sources, including trading between point and non-point sources and trading among non-point sources.

It is becoming increasingly apparent that many problems with water quality arise because non-point sources, such as agricultural runoff, are typically unregulated or minimally regulated. For example, over 18,000 water bodies will not attain water standards even if all point sources were to meet their technical requirements. While EPA has acknowledged non-point sources are a major problem, there have been few advances in regulation over the last twenty years.

There appears to be a great potential for achieving cost savings if non-point sources can be brought into the system. One way to bring them into the system is for EPA to develop guidelines for trading with non-point sources. Even if non-point sources remain largely unregulated, heavily regulated point sources should have the ability to trade with non-point sources provided they can show that water quality will improve as a result of the trade.

The technical challenges of regulating non-point sources are large, but surmountable. For example, I have proposed a transferable restoration credit system for the Everglades in South Florida that allows phosphorus to be measured at specified pump stations in the Everglades Agricultural Area. Where monitoring can only be done at great cost, then experts may need to use best practical judgment along with trading ratios to assure that water quality would improve. For example, in an application of this concept to the Hawkesbury-Nepean River system in Sydney, Australia, I am working with the government to establish trading rules for

phosphorus reductions for farmers. These reductions would reduce the occurrence of blue green algae blooms in the river system.

It is important to note that the technical challenges of regulating non-point sources are not unique to a market-based approach, but apply to all regulatory systems including command-and-control. If monitoring costs of actual loadings are too high, then other alternatives may be appropriate. For example, in the case of phosphorus use on farms, it may be preferable to impose a tax on inputs, such as fertilizer, basing the tax on expected harm to the water body.

A key advantage of introducing trading with non-point sources is that it provides environmental benefits while lowering the overall cost of regulation. If regulation of these sources remains largely voluntary, a market-based approach provides a positive incentive for these sources to participate in limiting their water pollution.

The concept of trading can be expanded to wetlands.

Recommendation 7: Congress should encourage EPA to develop and implement rules for trading among different kinds of wetlands.

The idea is to encourage the preservation of wetland functions while promoting economic growth. Because artificial wetlands can be constructed, there is scope for trading among wetlands. Establishing the rules for trading will be a challenge. EPA should be instructed to provide guidance on this issue in a timely manner, explicitly recognizing that different wetlands serve different functions. The practice of building or maintaining wetlands in exchange for specific forms of development has been tried successfully in Florida with the construction of Disney World. I propose to expand on that idea, allowing individuals greater flexibility in managing wetlands while preserving the environmental integrity of the wetland system.

Under current law, regulated entities would be required to meet technology-based requirements. This command-and-control regulation should be supplanted by market-oriented regulation that focuses on the environmental performance of the water body in question.

Recommendation 8: Congress should encourage EPA and the states to establish total maximum loads for all non-attainment water bodies.

Recommendation 9: For those areas where a load-based water quality standard is defined, Congress should permit the states to implement a trading system that does not require businesses to meet a specific technology-forcing requirement, provided that it can be shown that trading leads to a comparable or better outcome in terms of water quality.

The focus on environmental outcomes is likely to lead to better environmental quality at lower cost. Where there are damage thresholds associated with specific sites, some command-and-control regulation may be necessary to set the maximum ceilings on loads from a specific site or a cluster of sites. Nonetheless, the goal of regulation should be to provide the maximum improvement in environmental quality per dollar spent. This goal is best achieved through making greater use of market-based approaches for preserving and enhancing water quality.

While most, if not all, of the preceding recommendations could be implemented under the existing Clean Water Act, explicit Congressional support for marketable permits will spur their use.

Recommendation 10: Congress should insert language in the new Clean Water Act that demonstrates its commitment to the widespread use of marketable permits for improving the quality and economic value of the nation's water resources.

Congress should make it clear that it is primarily concerned with making necessary improvements in water quality in a timely manner. The precise method of achieving those environmental improvements should be left to business and government entities responsible for making the reductions needed to meet those goals.

##### 5. Whither Water Regulation?

A fundamental concern for the 1990s will be integrating water quality and quantity concerns. My testimony has focused primarily on quality issues, but the two issues are inextricably linked. Just as quality can be improved through the introduction of markets, so, too, can water quantity. Moreover, markets for water quantity may also improve water quality by encouraging non-point sources of pollution to conserve water. While water quantity issues generally are subject to state law, the federal government could help by endorsing the use of water markets and allowing the transfer of water contracts for federal reclamation water supply projects.

We have the technical know-how to implement economic instruments for improved water quality and allocation. The question is whether we have the political will. I am optimistic that such changes will occur. My only question is whether Washington will lead the charge or follow. The reauthorization of the Clean Water Act provides you with a unique opportunity to lead that charge. I hope you take advantage of that opportunity to benefit the health and welfare of the American people.

Thank you.

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1968

TESTIMONY OF DUANE MARSHALL,  
UNION CAMP CORPORATION  
ON BEHALF OF THE  
AMERICAN FOREST AND PAPER ASSOCIATION  
May 12, 1993

Mr. Chairman and members of the Subcommittee, my name is Duane Marshall, I am Director of Environmental Affairs for the Union Camp Corporation. I am testifying today on behalf of the American Forest and Paper Association (AFPA), the national trade association of the U.S. forest products, pulp and paper industry.

INTRODUCTION

Before addressing the Clean Water reauthorization issues, I would like to give you a brief snapshot of the important role that the U.S. forest and paper industry plays in sustaining the U.S. economy.

Nationwide, our industry accounts for 7 percent of all U.S. manufacturing output. AFPA's member firms directly employ 1.6 million workers in the growing of trees, the manufacture of forest and paper products, and the recovery and recycling of paper products. Collectively, the industry injects \$43.5 billion into local economies through wages and salaries, and ranks among the top ten employers in 46 of the 50 states.

The forest products, pulp and paper industry has been an active participant in the development and implementation of the nation's clean water laws.

Unlike many industries, we are regulated for both point and nonpoint discharges. So our interest in this reauthorization is substantial.

CLEAN WATER ACT ISSUES

Mr. Chairman, AFPA believes the Clean Water Act has been a true success story--one that has resulted in real improvements in our nation's water quality. The reasons for its success are simple:

1. In past reauthorizations, Congress has avoided micro-managing the implementation of the Act and resisted writing into the law overly-prescriptive requirements.
2. The statute gives EPA the broad authority and flexibility it needs to address virtually all water quality concerns.
3. The Act is based on a strong Federal-State relationship which results in effective implementation of its requirements.

If there is one message we would like the Subcommittee to hear this morning it is this: The Clean Water Act works--it is not broken. EPA has the authority it needs to solve most of our nation's remaining water quality concerns. We urge you to avoid adopting highly prescriptive requirements as they likely are unnecessary and duplicative.

As you review the many proposals to change the law, ask yourself this question: "Does EPA currently have the authority to carry out this activity?"

POINT SOURCE DISCHARGES/WATER QUALITY

The pulp and paper, or point source, side of the industry estimates that, since 1972, it has invested more than \$5 billion in capital spending to comply with federal and state clean water requirements.

This represents just a portion of the industry's overall investment in pollution abatement. For the years 1989, 1990, and 1991, total pollution abatement expenditures for the pulp and paper industry exceeded \$1 billion per year, of which 40-50 percent was for water quality improvements. This is a substantial amount of resources dedicated to environmental protection, whether viewed as an absolute number or as a percentage of total industry capital expenditures. Recent trends indicate that 20 percent of all total future industry capital expenditures will go to pollution abatement efforts.

What water quality improvements have we gotten for these investments? Well, we've reduced water usage in the manufacture of pulp and paper substantially. In the period 1975-1988, the industry's water use and effluent flows per unit of production were reduced by approximately 30 percent; in 1988, it required 70 percent less water to make a ton of paper than it did in 1959. Since 1975, the amount of conventional pollutants -- BOD and total suspended solids -- discharged from pulp and paper mills has been reduced by as much as 75 percent per unit of production.

Substantial reductions have also occurred with regard to toxic pollutants. For example, the industry has spent more than \$1 billion in process changes in a voluntary pollution prevention effort to reduce dioxin, an unintended byproduct of chlorine bleached pulp and paper manufacturing. Dioxin releases from pulp and paper mills have been reduced by more than 90 percent since 1985, and over 90 percent of the mills are already at or below effluent concentrations that can be measured by EPA's newest proposed method. As a result of this investment, the cumulative amount of dioxin associated with the pulp and paper industry is less than one percent of total estimated annual releases into the environment -- less than many other manmade sources, and even less than natural sources. And we continue to make further reductions.

The industry expects to spend an additional several billion dollars in order to fully implement the yet-to-be-promulgated requirements of the 1987 amendments, the Great Lakes Initiative and the new coastal nonpoint program.

The significant water quality improvements achieved with regard to point source discharges over the last twenty years can be attributed to two programs: the promulgation of effluent guidelines by EPA; and the implementation of water quality standards by the states.

Over the last twenty years, EPA has developed a comprehensive process that produces well-documented and usually carefully considered, technology-based effluent limitations guidelines. EPA is currently in the process of developing new effluent guidelines for pulp and paper mills which will include the installation of stringent Best Available Technology (BAT). EPA has been developing this very complex proposal through a public process for several years, with input from the industry, from environmental groups, and others that will be effected. These regulations will be finalized by 1995 with compliance required within three years or less. With this in mind, we strongly urge the Subcommittee to avoid additional amendments that would disrupt this ongoing public process.

With respect to the water quality standards program, AFPA supports the basic policy which provides states the flexibility to designate the use of a particular water body and to adopt criteria the state believes appropriate for each use. Where appropriate, water quality standards should be upgraded to address additional pollutants or new information -- so long as the criteria documents for those standards are based on sound science and are peer-reviewed.

We believe it would be appropriate to place more emphasis on EPA research to determine the effects of chemicals on various uses and in different settings. On the other hand, imposing uniform water quality criteria on all uses and in all circumstances such as EPA essentially has done in its National Toxics Rule - effectively eliminates the essential state role in designating uses, and should be avoided.

Early in these hearings, Chairman Mineta rightfully noted that our ability to detect pollutants has sometimes overtaken our ability to assess their true impacts and to develop additional control technologies. In fact, we can now detect to near zero levels, and zero keeps expanding from parts per million, to parts per billion, to parts per trillion, to parts per quadrillion, and so on.

To require a zero discharge of some pollutants, as some have proposed -- even after best available technology is installed and operating, and water quality standards are being met -- simply does not make scientific or economic sense:

Such a severe requirement, presumably proposed to squeeze out that last marginal percentage of pollutants, would cost industrial dischargers billions of dollars and in some cases could result in process or plant shutdowns and lost jobs. Wouldn't those dollars be better invested in capital improvements that create jobs, or be better spent on investments which can yield tangible environmental benefits? Reductions of discharges beyond what would otherwise be required by EPA and the states under effluent guidelines and water quality standards are unwise and unnecessary.

Mr. Chairman, as I mentioned earlier, we have spent over a billion dollars to reduce the trace amounts of dioxin in our discharge to below detection levels. Our concern is that, because a zero discharge requirement would necessitate wholesale changes in the direction of environmental controls we've undertaken, much of that unprecedented voluntary investment would become obsolete.

NONPOINT SOURCES

Unlike many other landowners, our industry has been implementing nonpoint source Best Management Practices (BMPs) for a number of years.

Since passage of the 1972 CWA Act, all states with significant forest management activities have either passed forest practice laws or developed BMPs, approved by EPA to minimize the impact of timber harvesting on water quality.

Consequently, EPA has repeatedly found that forest management activities contribute relatively little to water quality impairment. According to EPA, forestry contributes, on average, only six percent of the loadings attributed to nonpoint source pollution. Beyond this "quantity" issue, there is also the issue of "quality" -- and runoff from the forests has been demonstrated to be much cleaner than that from many other types of land use activity.

It has been estimated that approximately one-half of water pollution comes from nonpoint sources. If we are to achieve water quality improvements, then it is appropriate to consider additional approaches in this area.

But, we ask you to move forward with extreme caution in any nonpoint legislation, to consider what approaches are working well now, and to avoid a Federal regulatory approach.

First, we urge you to recognize the highly successful efforts already being made by those now implementing BMPs, particularly in silvicultural management.

Second, BMPs are, and should continue to be, developed on the basis of state specific characteristics. AFPA generally supports the approach taken by the National Governor's Association (NGA) and the Association of State and Interstate Water Pollution Control Administrators (ASIWPCA), which calls for a state-based, "bottom-up" approach in developing and implementing BMPs. Section 319 of the current law provides the best framework for addressing this state-based approach.

Third, any nonpoint source program should avoid prescriptive land-use planning. Implementing BMPs is one thing, but telling private landowners when, where and how to harvest timber is inappropriate and unnecessary.

Finally, any new program should include all nonpoint sources. Identifying a small, select group of "easy targets" will not result in measurable water quality improvements and will only place a disproportionate burden on those covered in the program.

### WATERSHED PLANNING

Watershed analysis and management concepts can provide useful tools for addressing regional and site specific water quality problems. As the Subcommittee is aware, not only does substantial authority already exist in the Clean Water Act to implement watershed planning approaches, but activity is occurring on a local level in nearly every part of the country.

For this reason, we urge the Subcommittee to undertake an extensive review of this authority, as well as a review of the watershed management activities already underway, to learn what has and has not been effective in the field.

Rather than embark on a major nationwide "shotgun" initiative, it may be more useful to apply watershed planning concepts utilizing a "rifle shot" approach in some highly impaired areas, perhaps on a pilot-project basis.

AFPA is also concerned about the potential misuse of watershed approaches as a means of imposing federal land-use restrictions on private landowners. If watershed planning were used to address objectives other than impacting water quality impairment, such as restricting legitimate timber harvesting activities, or controlling residential or commercial development, manufacturers, small businesses, private landowners, and their communities could be severely impacted.

Watershed planning should not be used to impede legitimate private sector activities that are themselves in full compliance with federal, state, and local water quality laws.

### WETLANDS

As the subcommittee considers amendments to Section 404, we would like to point out that forestry represents a compatible economic activity in woodlands that can protect and enhance woodlands functions and values. The 1988 National Wetlands Policy Forum Report, sponsored by the Conservation Foundation with an array of participating stakeholders, including major environmental groups, recognized the compatibility concept and concluded that the silvicultural exemption under Section 404 should be retained.

The industry strongly believes that non-regulatory approaches, including market-based incentives, will encourage landowners to maintain wetlands in forest cover. Market-based approaches, including mitigation banking, and modification to the tax code provides opportunities to restore, enhance and create wetlands.

AFPA believes that for a forested area to be classified as a water of the United States subject to permitting requirements under the Clean Water Act, all three wetland criteria (hydric soils, hydrophytic vegetation, hydrology) must be present and

fully documented. In addition, the burden and responsibility of proof must be placed on the federal government, based on the preponderance of the evidence, that the site meets all three wetland criteria.

Congress should recognize that the imposition of regulatory requirements can result in the significant loss of economic value resulting in a taking of private property. In the event that private property rights are taken, just compensation for the fair market value of interests in lands should be provided.

#### GREAT LAKES INITIATIVE

As you know, the Great Lakes Critical Programs Act was enacted in 1990 in the final days of the Congressional session. That law calls for consistent water quality standards to be developed for the Great Lakes System. Recently, EPA issued its proposed guidance for those water quality standards.

AFPA is actively involved in the Great Lakes Initiative (GLI) process. Throughout the deliberations, we expressed significant concerns over the quality of science being used to support the water quality guidance, the fast pace in which the process was moving, and the substantial economic impacts likely to occur in Great Lakes communities. Our views have been shared by others, including many local officials whose communities will be seriously effected.

We understand that the Great Lakes model may be under consideration for other areas of the country -- such as the Gulf Coast -- and we would like to work with you to assure that adequate scientific review and lead time, as well as credible economic assessments, are provided to assure the development of sound programs.

#### FEES

We are aware that Congressman Gerry Studds intends to introduce a bill that seeks to raise something on the order of \$4 billion in new fees on industry and agriculture to pay for municipal wastewater treatment.

We strongly oppose this proposal. The approach unfairly penalizes dischargers who meet permit limits and comply with water quality standards because it requires them to pay for the construction of POTWs -- many of which are probably not even located on the same water body, or even in the same state.

We would, in effect, pay twice -- once for the cost of installing our own pollution control equipment and again for the entire nation's municipal wastewater treatment facilities which create their own water quality problems.

Previously we submitted a statement for the hearing in the Merchant Marine and Fisheries Committee which details our concerns with this proposal, and we would request that this statement be made part of the record for these hearings.

#### CONCLUSION

In conclusion, Mr. Chairman, AFPA appreciates this opportunity to share its views with the Subcommittee on these issues. AFPA has a strong interest in the development of Clean Water Act amendments. We look forward to working with you to develop sound policies that recognize existing authorities in the Act, and that address remaining water quality problems in the most efficient and least disruptive manner.

1976

**National Association  
of Metal Finishers**

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William A. Sonntag  
Director of Government Relations

an organization of  
management executives  
in the fields of  
metal finishing and allied arts

STATEMENT OF DAVID NORWINE, CHAIRMAN,  
GOVERNMENT AFFAIRS, HAWARD COMPANY

**TESTIMONY OF THE NATIONAL ASSOCIATION  
OF METAL FINISHERS REGARDING  
REAUTHORIZATION OF THE CLEAN WATER ACT  
BEFORE THE WATER RESOURCES AND ENVIRONMENT SUBCOMMITTEE  
HOUSE PUBLIC WORKS AND  
TRANSPORTATION COMMITTEE**

MAY 12, 1993

**INTRODUCTION**

The National Association of Metal Finishers (NAMF) represents the interests of over 800 member companies in the Surface Finishing industry. NAMF members provide electroplating and other surface finishing techniques for a variety of industries including, medical, automotive, aerospace, defense and general industry. Surface finishing is accomplished as a service performed on customer owned parts, "job-shops", and in "captive shops", surface finishing operations integrated within larger manufacturing operations. Either way, these operations impart an array of characteristics to finished parts, industrial components and products. Primary characteristics are corrosion and wear resistance. Without this protection, our society would find it necessary to replace items such as automobiles, other consumer and industrial goods with much more frequency. This fact results in an intrinsic environmental benefit to society provided by the activities of the Surface Finishing industry. Industry processes reduce the need for basic metals and other resources through increased product longevity.

NAMF appreciates the opportunity to submit this testimony on behalf of its primarily small business member regarding the prospective reauthorization of the Clean Water Act. NAMF believes that reauthorization should address the current

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recognized, largely unregulated contributors to water quality problems including urban and agricultural "non-point sources" of pollution. The Congress should consider only provisions that seek to effectively minimize these contributions to pollutant loadings. NAMF suggests that Congress should not impose more and more stringent requirements on industries that are already heavily regulated by the Clean Water Act. Compliance by regulated industries such as NAMF's members has resulted in a significant improvement in the quality of the Nation's waters. Data collected by EPA, which the environmental community does not dispute, demonstrates that non-point sources of pollution, which have just begun to be regulated by the Clean Water Act, are responsible for 75 percent of the remaining water quality problems in lakes and 65 percent of the remaining problems in rivers.<sup>1</sup> It should be obvious from the EPA data that very little water quality improvement will result from any further, incremental reductions in pollutant discharges by point sources, simply because point sources are no longer a significant cause of water quality impairment. Incremental is the key descriptive term here. Reduction by industrial and other point-source dischargers of the last remaining traces of pollutants below current regulatory requirements which exceed or approach naturally occurring background levels will be prohibitively expensive to all - industrial facilities, communities and Publicly Owned Treatment Works (POTWs).

Congress should therefore recognize the significant, continuing achievements that industrial dischargers have made to date and focus its legislative efforts where remaining problems lay.

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<sup>1</sup>. Impairment of surface waters from all sources may well be considerably lower than indicated by the lists required under CWA Section 304(1). Many of the 304(1) indications of water quality impairment were based on water quality criteria for metals which are scientifically invalid (please see additional comments in this testimony).

COMMENTS ON SPECIFIC ELEMENTS OF CLEAN WATER ACT POLICYThe Effluent Guidelines Program - Continuous Progress

NAMF has become a significant contributor to the progress currently being made in the Effluent Guidelines Program, which along with Pretreatment Programs, sets discharge standards for the majority of industrial discharges. The program currently includes National Effluent Limitations and Standards for 50 Industrial Categories set since 1972. The prospect for continuous progress in the effluent guidelines program is contained in the current EPA Effluent Guidelines Plan which sets forth the following schedule for reviews of existing standards and development new categories:

- \* 9 ongoing regulations (listed in 1990 plan) to be finalized 1993-96;
- \* 12 additional regulations, final 1996-99  
Waste Treatment Phase 2; Industrial Launderers  
Transportation Equipment Cleaning; Metal Products &  
Machinery<sup>2</sup>; Eight Additional Categories;
- \* 11 pre-regulatory studies over 6 years.

NAMF serves as a participating member of the judicially mandated EPA Effluent Guidelines Taskforce. The primary charge of the task force is to make recommendations to the EPA on how the effluent guidelines development process can be further improved and expedited and the above schedule effectively implemented. NAMF, representing both its members' interest and those of general small business industrial facilities, is working with other task force members including POTWs, environmental and community groups, states and EPA staff to review and recommend the best methods for gathering data, promoting pollution

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<sup>2</sup>. EPA estimates that the Metal Products & Machinery category alone will regulate 855,000 industrial sites (57 Fed. Reg. 41001).

prevention, setting environmentally protective and economically achievable discharge standards. This collaborative process, bringing together all interested parties, is an example of how effective environmental policy can and should be made in successful, on-going, established regulatory programs. The collaborative approach is especially important in programs and policy which deal with, again, incremental progress in existing standards and already regulated industrial point source categories.

Consistency in standards, regulatory definitions and the general expectations of the regulated community as well as regulators (communities, POTWs, states) is essential for continued progress. The perceived need for and call for this consistency is a chorus from the regulated community, and particularly strong from local control authorities and POTWs that have meshed effluent guidelines limitations with their own locally imposed limits, water quality criteria based limits and beneficial sludge use requirements.

#### Establishment of Discharge Limits - Pollution Prevention

Congress decided in 1972 that EPA should not mandate how dischargers should reduce the level of pollutants in their discharges. While EPA was directed by the 1972 amendments to consider "process changes," along with other enumerated factors, when it promulgated discharge limits, the Agency was not permitted to require the adoption of particular process changes or the use of particular treatment equipment to achieve compliance with such limits. Rather, the decision how to come into compliance with effluent limitations was left to individual facilities. This regulatory approach was designed to foster and encourage dischargers to develop innovative approaches to come into compliance with standards. The process has worked well, although there is currently debate regarding the inhibiting effect of the "Technology Development Documents" used to support the limitations set in effluent standards because these documents inherently result in de facto specification of technologies.

There is neither a need nor a justification for altering the basis for effluent guidelines now, except perhaps to provide industry with pollution prevention incentives and flexibility.

Again, NAMF has played a constructive role in the debate about the appropriate role for pollution prevention in effluent guidelines standards. The Association participated for the past 18 months in the Industrial Pollution Prevention Project (IP3) Focus Group formed under the aegis of the EPA's National Advisory Council on Environmental Policy and Technology. This appointed group of leading industry, environmental group, POTW, consulting engineers and EPA officials struggled with the question of how pollution prevention could be fostered in the effluent guideline process but failed to reach full consensus on the appropriate method of doing so. Industry and others maintained that pollution prevention should be implemented with clear distinctions drawn between it and end-of-pipe control technologies. Pollution prevention policies in Clean Water Act programs should not look to past command and control approaches as a model but should be fitted securely in the multi-media, flexible, cooperative, incentive based approaches that appear to show the greatest promise for enhanced environmental progress and industrial competitiveness.

American industry, including the Surface Finishing industry, is extraordinarily diverse. There are literally tens of thousands of different processes, many of which are highly proprietary or simply unique due to the customer mix they serve, and just as importantly, completely different based on how individual facilities have tailored their specific processes in order to achieve general environmental protection and discharge limitations. EPA is simply not in the position to mandate pollution prevention measures including process changes or materials substitution, without wreaking havoc on the competitiveness of American industry. Accordingly, NAMF urges Congress to consider incentives and flexible approaches to pollution prevention as the primary, recommended tools for all

types of pollution prevention from source reduction to off-site return of materials into the stream of commerce.

Multi-media approaches to environmental control are now held to be the most promising development in environmental policy. The Surface Finishing industry is a compelling example of how pollution prevention and multi-media concerns are linked. The metals which are the primary constituent in Surface Finishing industry discharges are only toxic in concentrated amounts or volumes. In fact they are naturally occurring and ubiquitous earth elements. Unlike organic chemicals, they can not be destroyed through treatment or oxidation. While metals from plating operations can effectively be removed from waste water, the application of treatment technology to remove the metals from the water concentrates them in sludge or other semi-solid forms. There they can be appropriately managed or ideally, returned to either the plating process or sent off-site for reclamation and reuse. A variety of pollution prevention techniques are routinely used to insure that metals can be returned to process or are processed in a pure enough form to facilitate reclamation off-site. Virtually every one, single or in combination, are engineering techniques specific to the individual facility or production line. The appropriateness of any incremental water effluent discharge limitations for the Surface Finishing industry should include considerations of how current reclamation and solid metals generation reduction activities can reduce overall, multi-media releases to the environment but not mandate techniques.

The Domestic Sewage Exclusion Is An Important Part of Overall Environmental Strategy

The Resource Conservation and Recovery Act (RCRA) excludes from the definition of "solid waste" any mixture of wastes and domestic sewage that passes through a sewer system to a POTW for treatment. As a result of this "domestic sewage exclusion" (DSE), most treated, Clean Water Act regulated industrial wastes

that are discharged to POTWs are not considered to be solid or hazardous wastes under RCRA.

Pursuant to RCRA, EPA several years ago conducted a study of hazardous wastes discharged to POTWs. That study concluded that the DSE should be retained but that additional controls should be imposed on dischargers to POTWs. Those controls were promulgated in 1990. Having directed the Agency to study whether the DSE should be retained, and having made a study and recommendation which indicates that it should be retained, Congress should either call for review of those findings or retain the DSE.

The DSE should also be considered in the light of current prohibitions against "pass-through" interference for pollutants discharged by POTW system users, implementation and compliance with stringent water quality standards and the regulatory uncertainty (CWA & RCRA) for both industry and POTWs that would result from elimination or modification of the DSE.

Water Quality Standards - Good Science Should Be the Standard

Prior to the 1972 Clean Water Act, the primary mechanism for controlling water pollution was water quality standards developed by the states. In 1972, Congress decided to establish a nationwide, technology-based program of water pollution control as well (effluent guidelines), but Congress left with the states the primary responsibility for developing and implementing water quality standards, with EPA oversight. EPA was to "develop and publish...after consultation with appropriate Federal and State agencies and other interested persons...criteria for water quality accurately reflecting the latest scientific knowledge...on the effects of pollutants", CWA Section 304 (a) (1). 33 U.S.C. § 1314 (a) (1).

NAMF wishes to bring the issue of the scientific validity of current water quality criteria standards to the attention of the Subcommittee with the emphatic suggestion that Congress must compel EPA to revamp its development, consideration and adoption procedures for water quality criteria and perhaps other Clean

Water Act standards. The current informal "guidance" process subject only to requirements noted in-part above must be altered to insure that the "latest scientific knowledge" is in fact considered in these criteria through open peer review, public comment, and promulgation of these highly technical criteria. As often happens with "guidance" procedures or documents, federal water quality criteria and their applications methodologies adopted to date have become de facto standards on which many state programs are based. This unintended result (federal criteria were intended to assist states in developing their own standards) is often exacerbated because EPA Regional Offices discourage or all but refuse to accept alternative standards developed by states and because state resources for development of state specific criteria have been limited.

NAMF members are naturally concerned about metals water quality criteria and standards, and Congress has continually heard testimony from industry, municipalities and POTWs pointing out the extreme nature of metals water quality criteria and the prospective costs to control metals to below background levels as established in federal criteria and guidance documents that recommend or sanction the use of the "total recoverable metals" applications methodology.

In 1987 Congress adopted additional language at CWA Section 303(c)(2)(B). 33 U.S.C. § 1313(c)(2)(B) which required that states adopt numerical water quality criteria. EPA recently used provisions of this section as the purported basis for the promulgation of its "National Toxics Rule" ("NTR") (57 Fed. Reg. 60848 December 22, 1992) which imposed federal water quality criteria on 14 states.

In 1991 and 1992 NAMF used the Administrative Procedures Act proposal and promulgation process for the NTR to comment in part on the validity of the scientific basis for the metals criteria documents and guidance on which the NTR and many state water quality criteria standards, programs and permit limitations are based. NAMF provided comments to the EPA, including scientific

assessments and documents from within the Agency, that clearly indicated the metal criteria applications methodology used, recommended or sanctioned for use by EPA, the "total recoverable metals" measurement method, has been proven to be flawed, and that it measures amounts of metals that have not been shown to have a toxic effect on aquatic organisms.

Our on-going challenge to the scientific basis of EPA's current water quality criteria and applications methodology for metals illustrates that Congress must address the increasingly complex scientific basis for water quality regulation and the EPA's procedures for developing and implementing these basic provisions of the Clean Water Act. Congress must not allow EPA to use a "guidance" process coupled with the fog of scientific complexity to set standards which once in place result in environmentally unnecessary, extremely costly control measures, that are held inviolate by those who might choose to ignore the progress of environmental science.

#### CONCLUSION

NAMF wishes to again thank the Subcommittee for this opportunity to provide testimony. The information contained here indicates that the Surface Finishing industry has and continues to make a contribution to sound Clean Water Act and general environmental policy. Our industry has borne a tremendous burden in meeting a variety of environmental statutes. NAMF members understand that exceeding, not just complying with environmental regulations is the current and expected standard. Our members are only rankled when environmental requirements are unsupported by science, based on flawed logic or appeals to emotion. We hope that the Congress will use the reauthorization of the Clean Water Act as an opportunity to address new environmental challenges and the specific, limited deficiencies in existing law that require amendment.

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Please contact our Washington Office for further information and elaboration on this testimony, or contact any NAMF member located in your Congressional districts.

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TESTIMONY

OF

WILLIAM B. SCHATZ  
General Counsel

Northeast Ohio Regional Sewer District  
Cleveland, Ohio

BEFORE

THE

HOUSE PUBLIC WORKS & TRANSPORTATION COMMITTEE,

SUB-COMMITTEE ON WATER RESOURCES AND ENVIRONMENT

May 12, 1993

Mr. Chairman and members of the Committee, I appreciate the opportunity to present testimony to you today. My name is William B. Schatz, and I am the General Counsel of the Northeast Ohio Regional Sewer District. Our wastewater treatment agency collects and treats the wastewater for the residents and industries of the City of Cleveland and 48 other communities in the northeast Ohio area. We were created by an Order of the Cuyahoga County Common Pleas Court in 1972. Since that time, the District has spent over \$1 billion on construction projects to upgrade and improve water quality in the greater Cleveland area. One of the results of these efforts has been the tremendous improvement of water quality in Lake Erie and the Cuyahoga River.

The District owns and operates three major facilities within its service area. The Westerly Wastewater Treatment Plant, which is on the Lake Erie shoreline west of Cleveland, was rehabilitated and converted to a physical chemical treatment process commencing in 1974. The District's overall expenditure exceeded \$120 million for the upgrade of this 50 million gallon per day facility. Much of the facility was financed in part by the use of USEPA construction grant funds.

The process selected by the District was one which was touted by USEPA during the late 1960s and early 1970s as the technology of the future, particularly for facilities which treated high concentrations of industrial wastes. Rather than utilize conventional biological treatment, the process relied on removal of the solids through sand filters and carbon adsorption. During the course of construction, a number of problems were encountered both with the various phases of the

process and with certain equipment.

Through the early and mid 1980s, the District diligently dealt with construction and equipment problems and committed to the successful operation of the facility. After spending additional funds to change components of the system and process in 1989, a study of the facility was undertaken to ascertain if the process would work. The study concluded that the process was fundamentally flawed and would not enable the District to meet its NPDES permit limits for the Westerly treatment works. The District then decided to abandon and remove portions of the plant related to the physical chemical process and install a conventional biological facility with aeration and trickling filters.

A consulting engineer was retained by the District. After two years of design effort, construction commenced with a contract for site preparation. Three new contracts were let this year to upgrade the facility, and construction is now underway to convert the plant into a biological treatment operation. The cost of the actual conversion to a biological process is approximately \$35 million, although with engineering and other costs incurred by the District, the overall cost will be somewhat higher.

In addition, USEPA has brought an enforcement case against the District because the plant does not meet its effluent limits. The District has asserted a defense in this litigation with USEPA, claiming that it relied on the technology then touted and urged upon the District by USEPA. Also, auditors of the Office of the Inspector General during the construction grant close-out audit have set aside those portions of

the total cost funded with USEPA construction grants that are related to the flawed technology. This set aside means that the funds might be declared as eligible after the plant has been converted to a biological process and then meets its permit limits.

I appear before you today to request your assistance in obtaining recognition of this problem, and acknowledging the need for an authorization of an amount not less than \$35 million to assist the District in the reconstruction of this facility. This request is made with the caveat that there should be some fundamental fairness in the manner in which the users of the District's system are treated when they rely on representations made by the Federal government.

The rationale is that the District did rely on technology at this facility that was recommended and approved by USEPA. Without exception, other facilities constructed using this technology have all been converted to another process or otherwise rehabilitated. Several have received assistance through additional USEPA construction grants, which are, however, no longer available to our District. Arguably, had this facility been funded at the time when innovative or alternative construction grant funding was available, the facility would have qualified for such funding. Thus, the result of the failure of the process would provide that USEPA participate with funding at a level of 100% to rebuild the flawed technological portion of the treatment works.

The Westerly Wastewater Treatment Plant was the largest application of the physical chemical treatment technology in this country, and of course the largest facility which was unable to meet permit limits. The

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District spent several years and millions of dollars of its own additional funds to try to make this facility achieve its permit requirements. Now, the District must not only face the burden of the reconstruction of this facility, but must defend the lawsuit brought by USEPA. While we recognize that funding of specific projects in today's legislative environment is difficult because there are fewer discretionary funds available, we believe that this situation is so unique that it cries for the relief we request. We also seek through legislation an acknowledgement that the District's problem of permit noncompliance is not of its making, and given the fact that USEPA participated in the selection of and urged the flawed process, no civil penalties should be assessed against the District.

In closing, I again would like to thank the Chairman and members of the Committee for your time. I would be pleased to provide any additional information for your consideration. I once more urge that the citizens of northeast Ohio receive the fair treatment to which they are entitled caused by this mistake, and that they not have to shoulder alone the burden of the cost of the change.

1991



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Written Testimony of the  
AMERICAN TEXTILE MANUFACTURERS INSTITUTE  
before the  
HOUSE PUBLIC WORKS  
SUBCOMMITTEE ON WATER RESOURCES and ENVIRONMENT  
regarding  
REAUTHORIZATION OF THE CLEAN WATER ACT  
presented by  
JEFFREY SILLIMAN, ScD (Milliken & Company)  
CHAIR, ATMI WATER SUBCOMMITTEE

May 12, 1993

Gentlemen, thank you for soliciting the advice of the American Textile Manufacturers Institute specifically and those of us in the industrial community regulated by the Clean Water Act in general. My name is Dr. Jeffrey Silliman, and I manage environmental affairs for Milliken & Company, headquartered in Spartanburg, South Carolina. I, like those with me today, feel we can speak to the front-line successes and failures of the Act, and appreciate the opportunity to testify today. Given that textile facilities are in located in many small to medium-size communities, such as your own Mr. Chairman, I'm sure you will be able to relate to many of my comments.

For the most part, I would like to elaborate on several points my fellow panelists already have brought up -- specifically:

- **Don't rewrite the Clean Water Act.** Simply reauthorize it and make whatever minor revisions necessary. EPA already has numerous responsibilities from the 1987 reauthorization on which to act. Moreover, it has plenty of existing authority on which to act to protect the nation's waterways and the health and environment of the general public.

In addition, it should be noted that EPA's Office of Water faces significant funding cuts and staff reductions in the upcoming fiscal year and need not be hindered with new responsibilities. With fewer new responsibilities, EPA's Office of Water could focus instead on developing criteria and guidance documents based on *sound* science that are respected by the environmental and regulated communities alike and that are less likely to be challenged in court.



ATMI Testimony  
 J. Silliman  
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- *Refrain from requiring EPA to issue water-quality criteria on arbitrary schedules, that are generally applied and not scientifically justified across-the-board.*

*A case in point:* In regulating metals, EPA has issued water-quality criteria that apply to all metals that are present in a stream regardless of form, whether or not they are bioavailable or toxic. As a result, one textile company has spent upwards of \$300,000 and four years demonstrating to the State of South Carolina that the metal in textile dyestuffs, in this case copper, is not bioavailable nor toxic and therefore the state environmental agency should not use EPA's stringent criteria for copper in developing discharge permit limits for the form of copper present in this facility's effluent.

Because the metals exists, however, in all likelihood, the company will see a metal limit in the fraction of a part per million range in its permit that will require treatment costing hundreds of thousands of dollars annually but will have minimal, if any, environmental benefit because the copper chemically is not bioavailable to harm human health or the environment.

- *Because of the prevalence of facilities impacted by EPA's water-quality criteria for metals and the excessive costs incurred by municipalities and industries nationwide for treating metals to these low limits, Congress should require EPA to undertake its desired scientific review of its metals criteria within the next 12 months and act upon its findings within the next 24 months.*

Corroding pipes, naturally-occurring metals, and the commercial use of various products containing metals – from copper to chromium, mercury to manganese, and zinc to lead – are present in the municipal and industrial discharges to our nation's waterways. There's not a member of this Subcommittee that doesn't have a constituent interest here – be it a metal-finisher in Steubenville, Ohio; a computer manufacturer in San Jose, California; a photo-finisher in Utica, New York; a dentist in Beckley, West Virginia; a textile plant in Toccoa, Georgia, or a municipal wastewater plant in New York City.

But, while not all forms of metals are toxic or present a danger to human health and the environment, EPA does not distinguish between those that are and those that aren't, and, through guidances, encourages the adoption of overly-stringent permit limits for metals by state permit writers requiring enormous capital to meet – even when the metals present no documented danger. Such is the case with metals found in textile discharges emanating from textile dyes.

## ATMI Testimony

J. Silliman

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In January, ATMI participated in an EPA metals workshop where experts reviewed the Agency's controversial metals criteria and discussed the textile industry's predicament in particular. The experts recommended to EPA, and the Agency has concurred, that more research is needed, but due to funding cuts, may never be initiated or, if so, in the far-distant future -- as businesses and cities go bankrupt trying to comply.

To mitigate any further costs from its controversial metals criteria, Congress should mandate that EPA undertake and act on their proposed metals studies in the near, rather than long, term. U.S. competitiveness and municipal solvency is at stake.

- *The nation's ability to detect pollutants in the parts per million, per billion and now per trillion level is overwhelming our ability to pay for the protection of human health and the environment to these same levels.* Therefore, Congress should mandate realistic risk assessments and corresponding cost-benefit analyses, and, with EPA's expertise and assistance, prioritize the risks to human health and the environment that are addressed by existing federal environmental statutes. This may be an overwhelming, if somewhat undefined task. Still, if Congress fails to act, EPA forever will be pursuing to eliminate parts per million, per billion, per trillion and so on of a substance that poses relatively minimal risk in one situation while overlooking, or more appropriately underfunding, the elimination of, perhaps, the same substance, in another situation where it poses a relatively more serious and widespread risk. This is a costly chase that few industries or communities have funding to pursue. Risk assessments accompanied by cost-benefit analyses are needed.

*A case in point:* Presently, the general public can drink water with more copper content than textile companies are permitted to discharge in their wastewater. In setting these respective standards, is EPA saying fish are more important than humans? Which risk is greater? Where should the limited funds of federal, state and local governments be allocated?

- *Require EPA to use the rule-making process, and specifically the Advanced Notice of Proposed Rule-making (ANPRM), to notify the regulated community that it is investigating and preparing a rule or guidance, particularly the latter, that might affect them and that they can come to the Agency prior to anything ever being written and demonstrate why the guidance would not apply to them or how the EPA's approach to implementation might be flawed.*

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Presently, public notification is required for the proposal and issuance of only rules, not guidances, and even then by the time something is in writing, it is difficult to alter EPA's position. Requiring an ANPRM for every proposed rule and guidance would reverse the Agency's tendency to regulate first, de-regulate later, and save the regulated community and EPA much time, effort and money in correcting its overly-conservative assumptions and past mistakes.

- *Allow industrial facilities that can demonstrate to EPA that they have, in EPA's terms, "no potential for stormwater contamination" to exit the stormwater permitting system and be managed under urban stormwater management plans.* This would minimize paper shuffling at both EPA and affected facilities. And, it would allow the Agency to focus on the truly "bad actors," where stormwater contamination presents real problems and allow affected facilities to focus on complying with other pressing environmental mandates.

*A case in point:* Many textile companies not only manufacture fabric, but also cut and sew their fabric products into apparel. These "cut-n-sew" operations use minimal, if any, chemicals and have minimal potential for stormwater contamination, but by virtue of being manufacturing operations where industrial activity takes place, are subject to the stormwater permitting requirements. If no potential for contamination exists, then common sense dictates that these facilities and others should be exempt from the permit requirements and should be managed under larger urban stormwater management programs. Moreover, we fear that stormwater permits could become the domino triggering other requirements, just as we have seen SARA, Section 313 reports become.

- *Federal pretreatment standards are redundant and unnecessary.* For the most part, POTWs already impose local discharge standards on industrial dischargers across the nation. These standards prevent discharge of any substance or substances that could interrupt or overwhelm the treatment system or that could pass through a cause a compliance problem with the POTW's permit. Development of federal pretreatment standards would be redundant and a waste of the EPA Office of Water's limited financial resources.
- *Instead, invest in POTW construction and operator education.* Rather than impose redundant treatment, industrial dischargers and localities would be better served with construction of POTW systems accompanied by funds to ensure the proper education and training of POTW operators. To this end, Congress should require that for every dollar loaned from the State Revolving Fund, X percent should go toward annual operator training to ensure comprehension and proper use of EPA's criteria and guidance documents -- annual because of the constant issuance of new or revised EPA criteria and guidances being adopted by states.

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In the textile industry's experience, particular in rural and mid-sized communities, all too many POTW operators lack the proper education to understand and apply EPA's mandates as they are adopted and implemented by states -- for instance, EPA's water-quality criteria. This results in sometimes total misapplication of EPA criteria, inefficient POTW operation, costly, but unnecessary treatment, and need I forget, costly and protracted permit renewals for both permittees and local and state agencies. I speak from experience. Nearly 70 percent of textile dischargers are indirect dischargers through POTWs in mid- and small size communities.

*A case in point:* One textile company in North Carolina was told by their local POTW to reduce their discharge of copper and zinc to the level of several parts per million. Yet, the POTW was adding copper sulfate to their system to inhibit algae growth and zinc sulfate to inhibit corrosion -- both at levels that made the plant's in-coming water exceed the very water-quality limits for zinc and copper that they were imposing on the plant. The operators did not recognize the substances were being used nor did they comprehend how to properly adjust the metals limits of dischargers using their system to accommodate for their use. As a result, they were wreaking havoc and imposing overly-stringent limits on everybody including themselves.

- *Retain the Domestic Sewage Exclusion.* If the federal government doesn't know how to safely and cost-effectively handle hazardous waste at Superfund sites, it better not consider repealing the domestic sewage exclusion. EPA and the regulated community can show that the exclusion, which allows textile companies to discharge trace hazardous wastes to POTWs for treatment, has provided for the proper treatment and safe discharge of these wastes, minimal though they may be. Were it otherwise, companies could not afford, nor in many urban localities could space be found, for equivalent treatment. And, given the low detection levels that categorize a waste as hazardous, the potential for improper treatment, storage and disposal of hazardous waste would be greatly expanded.
- *Retain mixing zones in order to accurately assess the true impact of discharges on a water body and to allow nature to act on its innate capacity to assimilate.* In many instances, for example, with textile effluent from a weaving mill, nature has as innate capacity to assimilate and handle the discharge from the facility. In fact, biological wastewater treatment systems -- the type most frequently found within the textile industry -- are modeled after nature itself. To determine whether or not a discharge impacts a water body, however, industry and municipalities -- more the latter -- need mixing zones. Without them, we must rest on generalizations from tests run in controlled laboratory settings. Only through the use of mixing zones can industries and municipalities accurately assess the true impacts and address them. For many years, EPA has supported the use of mixing zones to further its holistic approach to water management.

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- *Refrain from arbitrary chemical bans or mandated reductions.* The regulated community has shown that it safely can handle and dispose of numerous substances that Congress or EPA might ban – several of which, by the way, are naturally-occurring that you can't ban, but from experience, EPA and states will mandate industries and communities to treat and control. Instead, Congress should acknowledge the past, present and on-going success of related environmental and safety statutes, and let them continue to work, and refrain from equating use with risk. If it does, it sets a dangerous precedent.
  
- *Where fees are required – for effluent guideline development, permits or discharges, require the input of the regulated community as to how the funds are to be used and an accounting of how the funds actually are used. In the case of fees assessed by POTWs, industrial and residential surcharges should be increased at approximately the same rate and be apportioned to reflect the existing use of the system.* Finally, the fees that are generated from NPDES permit holders, directly or indirectly, should be appropriated solely for point-source programs.
  
- *Recognize the context – the environment, if you will – in which efforts to comply with environmental mandates are being made.* To those of us trying to comply with federal environmental requirements, we are grappling not just with Clean Water Act mandates, but also RCRA, Subtitle C, SARA, Section 313, Oil Pollution Act, and others, all simultaneously. In today's economic environment, it's easier to say, "get it done" than it is to do – particularly when the problem exists at the several parts per billion or trillion level.
  
- *Moreover, recognize industry's efforts to date to minimize pollution and assist EPA in enhancing our environment.* The success of Clean Water Act in cleaning up the nation's waterways can be, to great deal, attributed to industry's joint efforts in developing and complying with EPA's effluent guidelines and in jointly constructing – and in many cases, helping POTW managers operate – the POTWs in our communities. EPA recognizes this, we hope you do as well.
  
- *"Amtext".* A lot has been said here and in the White House about converting military research and development for industrial purposes. I'm here to say that the American textile industry has listened and is making it come true. Last month an agreement between the U.S. Department of Energy and the American textile industry was signed that will open up DOE's labs to textile chemists, plant engineers, and environmental managers for up to \$15 million in cooperative research. The environment is one of five areas selected for research, in this instance, focused on waste minimization through technologies that facilitate reuse and recycling and, more importantly, by fundamental manufacturing process changes.

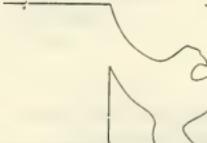
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In closing let me put my statements in context and state for the record that the American Textile Manufacturers Institute is the national trade association representing nearly 75 percent of domestic textile manufacturers located in approximately 30 states. The domestic textile industry is the *largest manufacturing sector of non-durable goods in the United States and contributes more than \$53 billion to America's gross domestic product* -- an amount larger than that produced by the automotive, petroleum refining and primary metals sectors. The industry consists of more than *26,000 companies* representing over 2 million jobs or *12 percent of the American workforce*. Textiles are manufactured into electronic components, medical devices, auto parts, home and office furnishings, and, of course, apparel. Presently, the domestic textile industry faces an unprecedented threat from foreign imports, many from countries that have few, if any, environmental concerns or mandates.

Gentlemen, I thank you for your attention and will be happy to entertain any questions.



**NEDA**  
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**CLEAN WATER PROJECT**

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**ORAL TESTIMONY**

**NATIONAL ENVIRONMENTAL DEVELOPMENT ASSOCIATION**

**CLEAN WATER PROJECT**

**MAY 12, 1993**

**INTRODUCTION**

Good morning. I am John Stein, and I am the Director of Strategic Environmental Initiatives for the Anheuser-Busch Companies. This morning, I am pleased to offer the views of the National Environmental Development Association's Clean Water Project on issues concerning the reauthorization of the Clean Water Act. My statement is meant to summarize and highlight the key points of NEDA's views. I would ask that our complete written statement be entered into the record.

In my testimony today, I plan to discuss briefly four significant issues in the reauthorization of the Clean Water Act -- market based approaches, toxic use reduction, toxic pollution control and enforcement.

**MARKET-BASED APPROACHES**

Market-based approaches to environmental protection can improve the quality of the nation's water resources while ensuring that the goal is reached in the most cost effective manner. In particular, provisions for the trading of effluents in individual watersheds should be explicitly added to the Clean Water Act.

A tradable permit system should allow companies to use trading to meet BAT requirements and pretreatment agreements.

In all situations, the antibacksliding provisions of the Clean Water Act should be clarified to permit trading.

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#### **TOXIC USE REDUCTION**

With respect to toxic use reduction, the NEDA Clean Water Project believes that Congress should not grant regulatory agencies the authority to make decisions that legitimately belong to the private sector.

A recent legislative proposal would have given EPA authority to make decisions regarding production in the guise of protecting water quality. Placing such authority in the hands of regulators would have serious implications for the growth and competitiveness of the U.S. economy.

Current law provides sufficient authority to establish standards. These should be continued along with market-based approaches for innovation and flexibility.

#### **TOXIC POLLUTION CONTROL**

Likewise in toxic pollution control, the NEDA Water Project believes that Congress should not summarily prohibit the use or release of substances without carefully considering the consequences.

Recent proposals to prohibit the discharge of certain chemicals do not consider the implications of such bans. Such decisions should consider the economic consequences to consumers as well as producers and the technical feasibility of achieving "zero discharge," along with the environmental effects of such restrictions.

#### **ENFORCEMENT**

In enforcement, we agree with a unanimous Supreme Court decision that citizens should not be given the right to sue for violations of the Clean Water Act that occurred entirely in the past. This authority would eliminate the distinction between citizen and government action to punish past transgressions.

Individual citizens are not bound by the government's need to pursue many public policy objectives, and are not held accountable by the general public, as is the government.

Granting citizens this right is entirely punitive. It will not improve present compliance or deter future violations.

The NEDA Water Project also believes that natural resource damages should not be made a part of Clean Water Act enforcement. Environmental remediation is already provided for under other laws.

I would now be happy to answer any questions.

2000



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**THE HONORABLE JEFFREY WENBERG**

**MAYOR OF RUTLAND, VERMONT**

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**THE NATIONAL LEAGUE OF CITIES  
ENERGY, ENVIRONMENT AND NATURAL RESOURCES COMMITTEE**



*before the*

**PUBLIC WORKS AND TRANSPORTATION COMMITTEE  
SUBCOMMITTEE ON WATER RESOURCES**

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**MAY 12, 1993**

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Mr. Chairman, members of the Committee: I am Jeff Wennberg, Mayor of Rutland, Vermont and vice chair of the National League of Cities Energy, Environment and Natural Resources Committee. I am here today to testify on behalf of NLC and the 16,000 cities and towns across the nation we represent on the critical municipal issues confronting you in reauthorizing the Clean Water Act.

We are pleased to see both Congress and the Administration reevaluate the Clean Water Act with a view to addressing some of the problems the nation's cities and towns confront in implementation of the statute. Our principal concern is that existing federal requirements are simply overwhelming our ability to comply with the law. Our members are making it absolutely clear that the trend of unfunded mandates must change. There must be a careful evaluation of what resources can reasonably be made available and an honest determination of what the best and most effective use of those resources ought to be.

We note that the reconciliation instructions are clear that there will be less federal assistance available, not more, irrespective of any level of authorization. We believe, therefore, that we have a common responsibility to manage with what we have -- and to assure that no additional responsibilities and liabilities are imposed upon us until we have resolved what is already before us.

We also believe you, as individuals and as members of Congress, must take responsibility for prioritizing federal goals and objectives. Both as members of this committee in dealing with issues over which you have jurisdiction, and, as members of the House of Representatives in voting on issues outside of this committee's jurisdiction the nation's resources at every level of government, the relative risk of what we are asked to fix, and the costs measured against the benefits must be assessed and evaluated as part of every decision made on Capitol Hill.

We are also concerned when we hear of increasing federal interest in imposing federal fees as a revenue raising measure. We regard user fees as our source of revenue and would oppose efforts to encroach on our already limited ability to fund Clean Water Act mandates.

From the perspective of municipalities, a Clean Water Act reauthorization must address the following issues:

- A clarification of Congressional intent and revisions of the stormwater management program;
- Requirements for combined sewer overflows;
- Clarification of federal wetlands policies; and
- A continuing federal financial commitment to municipalities to assist in implementation of Clean Water Act requirements.

**STORMWATER**

While more often than not it is senseless to codify specific and detailed requirements for implementation of programs, in the stormwater area it is increasingly apparent that Congress has little choice. The separate stormwater management requirements in the 1987 Clean Water Act amendments occupy less than one page of the law and to us seemed fairly straight forward -- implement best management practices (BMPs) to the maximum extent practicable (MEP). Yet EPA has managed to write hundreds of pages of regulations and require costly application procedures which to municipalities seem to go far beyond this standard.

The same is true for CSOs. The law encourages the use of alternative technologies, but past regulations and guidance generally do not actively promote innovation at the local level.

While admittedly it is easier to administer and enforce programs that have uniform requirements for every municipality -- the "one size fits all" paradigm -- here is very clearly a case where innovation and flexibility ought to take precedence. We could even get better pollution controls for less cost.

● **STORMWATER MANAGEMENT PROGRAM** -- Last year this committee took the initiative to ensure a two year delay in the application of the stormwater management program to the nation's smaller communities. It is an initiative we applaud and for which we are truly grateful. But, we also hope you recognize that that action was merely a stopgap placeholder and the whole issue of managing urban stormwater run-off for all cities must be revisited. In our view, this program very clearly is "broken" and in desperate need of revision.

As I'm told, a representative of the National Association of Flood and Stormwater Management Agencies (NAFSMA) suggested to this subcommittee during the last Congress that if the federal government were paying for the separate storm sewer management program you would certainly look more carefully at the cost/benefit ratios. We cannot overemphasize our concurrence with these sentiments.

We have seen cost estimates for implementation of this program that range from \$1.2 billion in annual operation and maintenance costs for relatively straight forward and simple best management practices (street sweeping, prevention of illegal hook-ups, "no littering" and "pooper scooper" ordinances, vacant lot clean-up, etc.) to \$542 billion for major structural controls to remove nutrients, microorganisms, floatables, and metals. We have seen estimates for potential capital costs ranging from \$147 million to \$407 billion. Please note that if municipalities are required to implement the most sophisticated stormwater management program, we are talking about close to \$1 trillion -- or translated into terms we can all understand, \$11,000 per person, per year! This is \$500 per year more than the average Rutlander makes -

- before taxes.

We have also heard some denigrate these cost estimates as "over-inflated." But we have yet to see realistic cost estimates from EPA, an agency that estimated preparation of an application for a stormwater run-off permit would cost between \$35,000 and \$75,000. The reality, based on the experiences of cities over 100,000 population, is that the average cost of a permit application has been closer to \$1 million. And for \$1 million all a city has done is apply for a permit; not a penny has gone to prevent or abate pollution anywhere.

The committee should be assured that many of the nation's larger cities, those over 100,000 population, are struggling to justify these expenditures to their citizens. Many of these cities have, or had, CSOs as well as separate stormsewer systems. First they asked their citizens to finance sewer separation and now they must ask these same citizens to face new taxes to finance the results of that separation.

The fundamental questions Congress must ask is whether stormwater runoff is really that serious a problem that controlling it merits expenditures of this magnitude. We believe that the NURP study, conducted before the widespread impact of implementation of secondary treatment was evaluated, is out of date and does not adequately define the problem.

And secondly, Congress must assess whether controlling urban runoff is a priority concern, and if so, what mandate will be lifted or cancelled to assure that the necessary resources are available -- at any level of government -- to finance a stormwater management program.

Having said this, we do not deny that stormwater runoff contributes some pollution to the nation's rivers and streams. We are not calling for repeal of the stormwater management provisions. But, we believe -- at least for the foreseeable future -- a simplified, flexible and financially feasible stormwater management program would allow for orderly and cost effective development of both information and program design and make more sense than what we face now.

Our bottom line is a legislative prohibition on requirements for end-of-pipe standards or water quality based limits as now applied to other point sources. It is untenable for the federal government to hold municipalities responsible to accomplish what no one knows how to do at a price that, in our current economy, is absolutely unaffordable. If the NPDES program cannot be amended to accommodate a lesser standard, than a new stormwater management program outside of the NPDES program should be added to the Clean Water Act.

● **COMBINED SEWER OVERFLOWS** -- EPA has recently completed a guidance document for implementation of a CSO strategy. I would like to request inclusion in the record

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of NLC's joint comments with the CSO Partnership. I also would like to reiterate one of NLC's concerns about implementation of a CSO strategy particularly as it affects more than half of the municipalities with CSOs -- those with populations of less than 5,000. These communities do not have the significant resources that would be required for studies and facility construction. And, we believe construction of facilities is not necessarily the most environmentally appropriate strategy for addressing pollution from combined sewers. We would prefer to see a mandated option for the use of alternative and innovative solution at least for small system CSOs.

If I may quote from the comments:

*Experience with utilization of ponds and wetlands designed and managed for wastewater treatment and water quality enhancement suggests that such alternative technologies offer the prospect for effective CSO storage and/or treatment at reduced capital and operating costs. Depending on local conditions, such approaches may also provide habitat enhancement, storage of storm flows and gradual release for low flow augmentation and preservation of open space with aesthetic and recreational value. In addition, such approaches may avoid adverse impacts on shoreline habitat and recreational uses resulting from construction of conventional storage and treatment facilities.*

#### WETLANDS

NLC acknowledges that wetlands are among the most productive of all natural landscapes. At the same time, the needs of the nation's growing population for housing, transportation and other infrastructure requires that we accommodate physical growth and development in our communities. But most of all, we need consistent policy setting the parameters for what we can and cannot do.

NLC believes sound public policy requires recognition of the values of economic and physical development as well as environmental protection. We support a classification system which recognizes that not all wetlands are of equal ecological function and value. Our criteria essentially are:

- to allow development where individual wetlands perform relatively marginal or insignificant ecological functions;
- to prevent development where wetlands are of the highest ecological value and irreplaceable;
- to require compensatory mitigation in areas where wetlands are very limited and losses would result in a serious reduction of wetlands function;
- to exempt areas where wetlands are abundant or the dominant land type and where proposed development would not result in substantial loss to overall

wetlands function and value from compensatory mitigation.

#### FUNDING

NLC has recently examined and developed new policy addressing what the nation's local elected officials believe are the most appropriate and effective means to re-establish the federal-state-local partnership in financing national goals and objectives in attaining and maintaining the national commitment to clean water. With respect to funding I will highlight three major areas of concern to our country's cities and towns: loans; grants; and project eligibility.

● **LOANS** -- While the National League of Cities continues to support the State Revolving Loan Fund (SRF), we do so with reservation. The loan program, in our opinion, is only one of several appropriate mechanisms for non-municipal financial participation in funding national environmental mandates.

We believe:

- First, a loan program should be a supplement to, not a substitute for, grant assistance.
- Second, we are also increasingly concerned about earmarks for purposes other than IMPLEMENTATION of Clean Water Act mandates.
- Third, repayable loans from federal resources generally mean that federal assistance goes to those least in need and with the best credit rating. The least goes to those with the greater needs.
- And finally, federal assistance comes with "strings," such as Davis-Bacon prevailing wage requirements, that make loans from private sources without those "strings" less expensive and more attractive.

Loans -- at least as currently devised -- are not a viable funding mechanism for many communities. A loan, by its very nature, requires repayment. For some communities, repayment is beyond their fiscal capacity. And, we believe it important to note, the inability to repay loans is neither unique nor exclusive to small communities. Many of the nation's large and medium sized cities face severe financial constraints, declining revenue bases, middle class outmigration, and increased federal intrusion in determinations about local financing priorities through costly, and in many cases, ill-conceived, mandatory requirements.

Municipalities face increasingly onerous and burdensome unfunded mandates from both the federal and state level. We are rapidly approaching -- if not already at - critical overload.

Conservatively, Clean Water Act mandates alone -- for wastewater treatment (\$110 billion), for CSOs (\$200 billion), and for stormwater management (estimated at a minimum \$1.1 billion for operation and maintenance of least cost best

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management practices) -- represent in excess of \$300 billion.

We also face daunting, unfunded federal mandates for Safe Drinking Water Act requirements; RCRA mandates for solid waste disposal facilities; Superfund liability; Americans with Disabilities Act requirements; Fair Labor Standards Act costs, etc., etc., etc. One simple truth is environmental protection happens at the local level. The only place these mandated programs actually come together is when they land on my desk -- or show up in my constituents water bills.

We believe the current committee system makes it difficult for members of Congress to appreciate the "big picture" facing other levels of government. By way of example, you deal with Clean Water; Energy and Commerce has jurisdiction over drinking water and RCRA; Judiciary has ADA; Education and Labor does the Fair Labor Standards Act. One-by-one these legislative proposals may not look onerous. The cumulative impact at the local level, where we must address all of these concerns -- and usually by yesterday -- has brought us to our knees.

While it is not really within your purview, the states, by and large, are no different. Mandates imposed on the states by the federal government more often than not get passed on to us at the local level. And in the event there is something requirement Congress or the federal agencies have not thought of, you may rest assured, the states have or will. And that gets passed on too -- not to me as the Mayor, but to my citizens, my taxpayers, your constituents.

And, it does not end with the Congress. Some states take full advantage of the unrestricted license allowed under federal law to further enlarge these mandates. For example, it EPA desires to tighten regulations on the recycling of sewage sludge (Sec. 503), they can do so only if the more stringent standards are "necessary to protect public health and the environment. States, however, are not bound by this standard and may impose regulations based upon purely political considerations or even whim.

If the federal government expects us to continue to comply with federal requirements it must either:

- provide adequate financial assistance for all of these programs,
- a mechanism for prioritizing requirements to allow a rational approach to the tasks at hand, or
- the flexibility to address what are truly the problems at the local level.

A further exacerbation of the problem is what we heard recently from EPA -- that the SRF would be used to restore funding for a state program (the 104[b] program) proposed to be cut by OMB in the FY 1994 budget. The states already get 4 percent off the top in non-repayable grants for the costs of administration; Indian tribes get funds off the top of the SRF in non-repayable grants for compliance with

CWA mandates; now EPA is proposing to further diminish the SRF with yet another set-aside.

For municipalities, faced with the lion's share of the \$300 billion in implementation costs, there are only repayable loans. If we continue to see erosions and intrusions into the SRF for yet more set-asides, there will be less and less available even to borrow.

- **GRANTS** -- NLC believes that without grant assistance as part of the federal commitment to help meet the nation's environmental objectives, it is unlikely that municipalities will be able to comply with these mandates.

The previous administration recognized -- albeit in limited scope -- that the only way to attain the national commitment to secondary treatment (in the six coastal cities -- Seattle, Los Angeles, San Diego, Boston, New York and Baltimore), was by providing grants to expedite the process. There is little likelihood that cities, confronted with the magnitude of costs, will ever have the resources to complete even secondary treatment without grant assistance.

NLC policy in fact, calls on Congress to restore grant funding to assist municipalities in meeting the nation's clean water goals and objectives. Cities should be eligible for grant or loan funds or any combination of loans or grants. The use of loans and/or grants should be tailored to the specific needs and capacity of each municipal applicant for federal assistance. We also believe funding allocations to municipalities should take into account not only a municipality's ability to finance projects, but also prior local efforts to address the problem. We do, however, support prohibiting the use of grant funds to repay loans from the SRF.

- **GRANTS TO SMALL COMMUNITIES** -- Let me also add, that while we appreciate efforts to target grant funding to small communities, NLC does not believe population size is the sole determinant of need. Some of my colleagues preside over small communities where there is significant (and enviable) affluence. Others preside over large cities where significant proportions (in some case more than 50%) of the population are on some form of financial assistance. We believe economic distress, ability to pay and the community's track record of success in water pollution control should be elements of any grant formula.

In Rutland, for example, we will double our water and sewer rates in six years. The 1993 increase was 18.3%. We estimate that 90% of these new dollars are a direct result of state, Clean Water Act and Safe Drinking Water Act mandates. These increases do not include spending on stormwater treatment or the preponderance of CSO mandates.

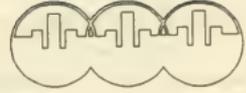
- **PROJECT ELIGIBILITY** -- NLC specifically supports expanding the activities eligible for

federal financial assistance under the Clean Water Act. We were pleased to see Administration support for this expansion in their proposed FY 1994 budget as well. We believe such funding should be available for all Clean Water Act mandates. We are most concerned that in addition to funding for compliance with secondary treatment, funds be made available to assist municipalities in addressing problems associated with CSOs and separate storm sewer management programs.

#### OTHER ISSUES

While these are our top priority issues, there are clearly others about which we have concerns. If I may, I would also like to submit NLC's *National Municipal Policy* on Clean Water issues for the record. It details our position on issues not specifically address in the testimony. In addition, our steering committee will be meeting tomorrow to review our current policy on watershed management with a view to enhancing our current position on this concern.

**National League of Cities  
Energy, Environment and Natural Resources  
1993 National Municipal Policy**



## **2.05 Water Quality And Supply**

### **A. Problem**

It is becoming increasingly apparent that no section of the country is immune to the problems associated with both natural and man-made water pollutants. Urban stormwater and construction runoff have long been recognized as major contributors to water quality problems, and in many older cities, the existing sewer system with deteriorating pipes may be one of the main causes of water pollution. The growing concern over the introduction of toxic chemicals and pesticides into the environment and their impact on the ground water have added a new dimension to existing problems.

New treatment plants are generating mountains of sludge to be disposed of, and serious questions about land application practices encouraged by federal legislation are being raised as the concern over heavy metals, organic chemicals, and pathogenic organisms grows.

There is increasing evidence of organic contaminants, viruses, and other disease-causing organisms in our nation's public water supplies.

Expanding industrial activity has resulted in the discharge of a wide variety of synthetic organic chemicals into the rivers from which a large number of cities draw their drinking water. In spite of increasingly stringent controls on water pollution, small amounts of these chemicals have still been widely detected in the treated drinking water of many cities. Several of these synthetic organic chemicals are known as possible carcinogens, although the exact extent of the public health hazard posed by quantities of those chemicals present in cities' drinking water is not fully known.

The limited availability of water in all parts of the country also appears to be a growing and difficult problem.

Individual cities and in some cases entire regional water basins are feeling the constraints of limited water supplies. In some places, constraints have become true shortages. New reservoirs or diversion projects can no longer be solely relied upon to solve the problem. The number of possible sites, the environmental disturbances, the financial costs, and the absolute supply of water severely limit these structural solutions. Nor can greater amounts of groundwater be relied upon. In some locales, ground water mining has led to exhaustion of supplies, diminished stream flow, and land subsidence, and salt water intrusion.

Water has not traditionally been subject to price-determined allocation. Instead, it has been distributed according to a complex mix of state laws, federal regulations and charges, and local rates. It is a haphazard system at best, one which nearly defies rational evaluation. For many projects federal funding and water rates are such that taxpayers subsidize projects, the benefits of which go disproportionately to a limited number of agricultural and industrial uses.

### **B. Goals**

The basic principle for dealing with water pollution must be that no one has the right to pollute—that pollution continues because of technological limits, not because of any inherent right to use the nation's waterways for the purpose of disposing of wastes. However, the impracticability of immediately eliminating all pollution also must be recognized. A reasonable relationship of economic and social costs and benefits should be a necessary precondition toward achieving a nonpollution goal. The ability of municipalities to comply with any clean water program must be recognized as contingent upon adequate funds for building treatment facilities. In addition, any clean water goal must be applied on a uniform, national basis to prevent movement of industry in search of loosely enforced standards.

The nation's drinking water should be as safe as is technologically feasible at reasonable cost. Most Americans receive their drinking water from public water systems owned and operated by local governments. It is thus imperative for the continued health and welfare of the nation that local governments have the financial resources

and technical expertise needed to provide adequate and safe drinking water to their citizens.

### C. Clean Water Act Policies

#### 1. Federal Funding

Federal participation in the financing of projects mandated by the Clean Water Act is critical to the ultimate achievement of national water quality goals. The federal government must continue and expand its partnership with states and localities in the funding of Clean Water Act mandates. Federal contributions to the financing of water pollution control needs must be both substantial and a reliable long-term source of capital.

##### a. State Revolving Loan Fund

NLC continues to support the state revolving loan program (SRF) as a supplement to, not a substitute for, a grants program. The federal government should authorize an annual appropriation of funds which would be distributed to the states according to a specified formula. The states should then establish their own revolving loan programs for the distribution of loans, loan subsidies, or bond subsidies to localities for meeting Clean Water Act mandates. Such a supplementary program would help leverage federal funds, reduce annual local debt payments, and provide localities with added flexibility in structuring their Clean Water Act financing plans. Congress should prohibit states from using the interest on SRF loans to local governments to meet state matching requirements.

##### b. Grants

It is estimated that the nation's cities and towns face over \$200 billion in unfunded Clean Water Act mandates to comply with secondary treatment requirements and separation of combined sewer overflows. These cost estimates do not include implementation of separate stormwater management or wetlands protection or mitigation programs.

NLC calls on Congress to restore grant funding to assist municipalities in progressing toward meeting the nation's clean water goals and objectives. Without such assistance it is unlikely that municipalities will be able to comply with federal clean water mandates.

##### c. Use of Funds

Federal funding for Clean Water Act purposes should be available to meet all Clean Water Act mandates imposed on municipalities including construction of wastewater treatment plants, interceptors and major appurtenances, infiltration/inflow correction, major sewer rehabilitations, repair, upgrading, collector sewers, combined sewer overflows, separate stormwater management programs and wetlands mitigation projects.

Cities should be eligible for grant or loan funds or any combination of loans and grants to meet their water pollution control needs. Under no circumstances should any community be permitted to use grant funds for repayment of loans granted under the Clean Water Act.

The use of loans and/or grants should be tailored to the specific needs and capacity of each municipal applicant for federal financial assistance. Allocations of funds to municipalities should take into consideration a community's ability to pay and past local efforts to address the problem.

##### d. Sources of Funding

The federal government should redirect non-domestic spending priorities to assure adequate resources to meet Clean Water Act mandates. Congress should allocate a portion of these

redirected resources to a fund dedicated to implementation of water quality requirements.

Under no circumstances should the federal government look to traditional local sources of revenues (e.g., a federal tax on water and sewer user charges, a federal tax on industrial dischargers to POTWs) to fund increased federal participation in financing Clean Water Act mandates.

e. **Tax Code**

Congress should remove current restrictions on the availability of federal tax incentives for private financing of wastewater treatment facility needs, since such financing arrangements may reduce capital costs and expedite project construction, upgrading, repair, rehabilitation, etc.

2. **Compliance**

To enable municipal compliance with federal secondary treatment requirements, Congress should restore adequate grant funding and assure full funding of the SRF. Additionally, state governments should provide increased assistance for construction of wastewater treatment facilities and localities should collect sufficient revenues through assessment of user fees to help pay for the needed construction.

3. **Local Financing**

Local governments should have the choice between the ad valorem property tax, metered user charges, and any other mechanism for recouping construction and operating costs. Federally mandated sewer user charges should be deductible from federal income tax.

4. **Level of Treatment**

The statutory requirement of "secondary treatment" should be defined as a desired level of water quality and not restricted to any one particular process. This desired treatment level required of municipalities should be defined to prevent expenditures for unnecessary and expensive facilities. Moreover, the least expensive solution should be favored, such as low flow augmentation, when such a solution is the most economically efficient solution.

5. **Needs Survey**

Cities should cooperate with their states and the EPA to develop an accurate and equitable needs estimate for the annual survey required by the Act. EPA must assure that project priority lists submitted by states give highest priority to projects in areas of greatest need, and assure the highest return in the amount of pollution controlled for each dollar of federal assistance expended. Attention should also be given to problems of small, rural communities.

6. **Areawide Planning**

Where wastewater treatment planning is on an areawide basis, local elected officials must have primary responsibility. Management agencies should be designated in response to the desires of local elected officials, and should assure a fair voice for each participating government on a one-man, one-vote, or weighted vote basis. Preference should be given to existing planning and management agencies where they have demonstrated expertise and capability. Each city should be designated a management agency, if so desired. River basins should continue to be basic units for the development and administration of water resources. River basins should be developed to assure the maximum benefits possible in both water supply and recreation to the communities they serve.

Areawide water quality management programs required under Section 208 must be assured adequate federal funding for implementation and continued planning and management. Funds must be made available for adequate technical assistance to aid in the transition from planning to actual implementation of plans.

7. **Discharge Analysis**

Any extensions of the deadline for compliance with secondary treatment standards should allow adequate time

for individual analysis of current discharge practices. The analysis should focus on all relevant environmental effects including air quality, land use and energy efficiency. When evidence indicates that the technique utilized does not significantly degrade the environment, the facility should be exempted from additional treatment. The practice should continue to be monitored and if an unfavorable change is noted, additional treatment should be required.

### 8. *Desalinization and Recycling*

Government policies should encourage expanded use of desalinization processes and recycling of wastewater along with recovery of sludge and other resources material.

### 9. *Beneficial Use of Sludge*

Federal regulations on the management of municipal sewage sludge should encourage its beneficial reuse. Reasonably anticipated adverse effects associated with potential sewage sludge exposure and local geographical and climatic conditions must be considered in the safe disposal of sludge. If site specific consideration can be shown by reasonable risk assessment analysis to be environmentally sound, then the management practice should be permitted.

### 10. *Sedimentation and Silting*

Sedimentation and silting of lakes, creeks, estuaries, or other streams must be checked and avoided in all future planning. Whenever such silting and erosion has already occurred, research should be continued to find ways of correcting this condition, within an ecologically sound framework.

### 11. *Research*

EPA should support research on problems growing out of the management of wastewater treatment facilities such as combined sewer overflows, land application of treatment effluent and sludges, and source reduction.

Innovative and alternative technologies have not been used to their fullest potential. Therefore, federal research, development, and public education of these technologies should expand, but not at the expense of research on management and operational issues.

Source reduction technologies and programs are prohibitively expensive for individual municipalities to develop. For example, to enable municipalities to reduce levels of metals and other toxic pollutants from non-industrial sources, EPA should undertake research to identify products introduced by small business and residential generators and suggest control programs for reducing these pollutants.

### 12. *Pretreatment*

EPA should establish national categorical pretreatment standards only for those industries that it has classified as major polluters and only for those classes of toxic pollutants which are known to be widespread and which may be causing human health and aquatic life problems. EPA should be required to publish, by date specific, a listing of categories for which action will be required.

Local governments should be allowed to devise methods to satisfy national standards that not only assure protection of water quality but which are also cost effective under the conditions of their particular jurisdiction. Therefore, as an alternative to federally mandated implementation of the national categorical pretreatment standards, Congress should authorize states to approve local pollutant elimination programs.

To qualify for the alternative local program, a Publicly Owned Treatment Works (POTW) should be required to demonstrate to an authorized state agency that: 1) the POTW is in compliance with the requirements of its permit under the National Pollutant Discharge Elimination System (NPDES); 2) it has developed and implemented a local pollutant elimination program that in the aggregate is equivalent to implementation of the national categorical pretreatment standards; and 3) it is maintaining a local monitoring and reporting program which is adequate to disclose the quality of the receiving waters.

### 13. *State Water Quality Standards*

The current Clean Water Act requires states to designate how each water body is to be used within its

jurisdiction and to develop standards for attaining that use. Under no circumstances should a state be allowed to downgrade or revise its water quality standards where the designated uses have already been attained. However, a state may revise its water quality standard if it can demonstrate that: 1) the existing designated use is unattainable because of irretrievable man-induced conditions; or 2) attainment of the designated use would result in substantial and widespread adverse economic and social impact.

Where the water quality of a stream exceeds the level necessary to maintain a designated use, a state should have the option to allow lower water quality for that stream because of necessary and justifiable economic or social development for which there is no feasible alternative. In no case should the degradation of water quality interfere with or become injurious to existing instream use. Before a state exercises such an option, it should be required to hold public hearings and coordinate with all affected governmental agencies.

#### 14. *Toxicity Testing*

NLC supports the use of Whole Effluent Toxicity Testing (WETT) for the assessment of the potential toxicity of wastewater discharges; however, legislation should be adopted to prohibit the use of such tests as "pass/fail" NPDES permit conditions imposing strict liability on POTWs.

#### 15. *Common Law*

No municipality injured by a willful or negligent violation of federal or state law should be deprived of a remedy if one exists under the federal Water Pollution Control Act and other appropriate laws. However, EPA must be made a party where the defendant can demonstrate it has acted in good faith.

#### 16. *Pollution Prevention*

In addition to treatment policies, the federal government should develop, advocate, and institute pollution prevention measures. Prevention strategies are more effective in keeping toxics out of wastewater and far less costly than end-of-pipe technologies. Products containing chemical levels which constitute a significant percentage of the total loading should be restricted as to their composition and/or use.

#### 17. *Separate Storm Sewer Requirements*

NLC continues to support a more simplified and flexible approach to management of municipal stormwater run-off which would allow for orderly and cost effective development of both information and program design than that which exists under current EPA regulations.

Congress should amend the Clean Water Act to regulate urban stormwater run-off under a newly-enacted provision of the Act separate from the NPDES program. Such regulations should require implementation of Best Management Practices (BMPs) to the Maximum Extent Practicable (MEP) with a legislative prohibition on requirements for end-of-the-pipe treatment. Management of run-off from municipal industrial facilities should be incorporated as part of a system- or jurisdiction-wide stormwater management program. Municipal compliance with stormwater management requirements should be based on implementation of site-specific Best Management Practices required in the permit.

#### 18. *Combined Sewer Overflow (CSO)*

In establishing CSO guidelines, the federal government should use a technology-based approach determined on a case-by-case basis using best professional judgement weighing costs and benefits. The cost-benefit analysis should carefully consider the cost of CSO control, the intermittent and dilute nature of CSO discharges, the extremely large rate of the discharges, and the often remote locations of CSO outfalls against measurable benefits.

In controlling pollution from combined sewer overflows, EPA should develop a risk-based policy which implements controls and establishes implementation schedules based on the severity and/or frequency of pollution caused by overflows.

Technology-based requirements should not be assumed to involve end-of-the-pipe technology such as retention followed by conventional wastewater treatment. The technology-based requirements should provide for a wide variety of control techniques such as infiltration/inflow control, street sweeping, and conveyance away from sensitive environmental areas. Partial or total sewer separation should be phased in over time.

Municipalities shall be deemed in compliance once control plans and implementation schedules are in place, assuming the controls are appropriate and the schedule for implementation is maintained.

EPA should establish a "wet weather task force" of state and local government representatives to develop realistic water quality standards taking varying climatic and hydrogeological conditions into account.

Funding allocations should take into consideration a community's ability to pay and past local efforts to address the problem.

#### *19. Non-Point Pollution*

Congress and the Administration should proceed as expeditiously as possible through expanded research and development, technical and managerial assistance, and funding to aid the efforts of local and state governments in the control of non-point sources of water pollution.

Congress should authorize a new supplemental grant program for the funding of non-point source pollution abatement.

2015



## The CSO Partnership

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### MEMORANDUM

TO: US EPA Assistant Administrator for Water  
US EPA Assistant Administrator for Enforcement

FROM: The CSO Partnership  
National League of Cities

DATE: March 19, 1993

RE: Comments on EPA Draft CSO Control Policy

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These comments are submitted jointly by the CSO Partnership and the National League of Cities. We thank the US EPA for the opportunity to comment on this Draft CSO Control Policy.

#### INTRODUCTION

As communities with combined sewer systems have recognized for some time, discharges of combined sewage, or CSOs, into our nations' waters represent a significant source of pollution that must be controlled if we are to meet the national goals of restoring our nations' waters. The CSO Partnership was formed to promote solutions and funding for this problem through a true **partnership** among the communities, states and the federal government. The **Draft Combined Sewer Overflow Control Policy**, developed by the US Environmental Protection Agency, dated December 18, 1992, represents a significant step forward by resolving issues and providing a sound format that will promote cooperation and the implementation of real solutions.

The CSO Partnership and the League believe that this Policy represents a workable compromise among the competing concerns of improving water quality through CSO control and recognizing the very real costs to communities and ratepayers that are associated with controlling and treating large volumes of combined sewage. As the Partnership and the League understand the Policy, planning for long term control of CSO discharges to meet Clean Water Act requirements will recognize the need to schedule construction and implementation of long term programs consistent with communities' ability to fund the programs. This recognition that programs will be implemented only in a manner consistent with communities' ability to afford the programs represents a significant change from the past, when it was perceived that there was little concern about how projects would be -- or whether they could be -- financed.

The CSO Partnership and the League want to note several components of the Policy that are particularly good:

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1. Recognition of financial considerations: EPA states early in the document that it "recognizes that the financial considerations are a major factor affecting the implementation of CSO controls" [page 7]. Thus, the Policy contemplates that implementation of long term control plans will take into consideration the community's ability to fund required projects. EPA has said that it is ultimately "each permittee" that is responsible for aggressively pursuing financial arrangements for the implementation of CSO controls. While we agree with that statement, it is only with the help and support of EPA and other interested parties that funding for these projects can be appropriately prioritized and made available. The recognition that without funding strategies no programs can be implemented is a significant step forward in ending the many years of little action on CSO control.
2. Long term planning based on knowledge of the sewer system: The Policy recognizes that development of environmentally sound and cost effective programs for CSO control depends on having good data and an understanding of how each specific system works. The approach of characterizing the system and developing a range of alternatives for review is sound. In addition, the CSO Partnership and the League support the early review of sensitive areas and the use of cost/benefit analysis in developing control programs. Overall, the Policy prescribes a rational and sensible approach to long term planning.
3. The co-equal nature of the "Presumption" and "Demonstration" approaches: The Policy allows a community to use the approach which is most suitable to its situation. While, as discussed later, the language in the Policy must be sharpened to make clear this equality, this flexibility and recognition of the site-specific nature of CSO problems will enhance the ability of communities to plan cost-effective and environmentally sound programs.
4. The recognition of the need for appropriate state water quality standards: The Policy encourages state and federal regulators to meet with communities planning CSO control programs to review and coordinate development of water quality standards to better reflect wet weather events. The Policy recognizes the need to be realistic about conditions during wet weather events and to more carefully define designated uses based on genuine recreational and other opportunities.
5. Prohibition of dry weather overflows: The CSO Partnership and the League recognize dry weather overflows (DWOs) of untreated and undiluted sanitary sewage from combined sewer systems as one of the most significant pollution problems in our waters today. The Partnership and the League support EPA's strong position on elimination of DWOs.

6. Maximizing treatment at the POTW: The Policy recognizes that it makes little sense to prohibit communities from using primary treatment capacity already available in the system. The provisions for a "generic bypass" will improve the level of treatment received by combined sewage flows and will foster environmentally sound decisions about where and how to discharge from combined sewer systems.

In addition to these general comments on the Policy and the positive step forward that it represents, the CSO Partnership and the League have specific comments on several sections of the Policy and has proposed language changes at several points. A copy of the Policy, with redlining and strikeout, is included with these language changes.

## **POLICY AS REGULATION**

The Policy states it is guidance only. However, as is well understood by the regulated community, unless carefully worded this guidance could be applied as regulation by permit writers. To assist in alleviating this potential problem, we have suggested replacing definitive key words and phrases throughout the document with language that appropriately conveys the discretionary nature of this guidance document.

## **STATE STRATEGIES**

EPA has recognized in the Policy [page 3] that the State strategies developed in conjunction with its 1989 CSO Strategy must be revised. The State CSO strategies are intended to provide a greater level of detail and site specific guidance to the affected cities and municipalities. The Partnership and the League recommend that the existing state strategies be revised after finalization of the policy on a schedule similar to that for the development of the strategies in 1989-1990. The initial guidance and direction for strategy review and update must come from either the national or regional levels of EPA. We suggest the schedule to reduce the period of uncertainty under which states and permittees must work and because it is the state policies that will initiate and provide more area-specific guidance for WQS revisions and ongoing CSO planning efforts. The Partnership and the League also recommend that the state strategies be reviewed and updated on the same triennial schedule as is currently required for each state's existing Water Quality Standards.

## **PREVIOUSLY COMPLETED CSO CONTROL PLANS AND PROGRAMS**

The provision at Section I.C.2. [page 4] for programs being implemented at the time of Policy adoption requires that existing programs be modified to comply with the sensitive area and fixed-date schedule requirement in the Policy. These requirements are likely to be unworkable where programs are being implemented and may be unfair to communities that already have begun the difficult task of CSO control. Requiring these localities to

modify already agreed to programs will penalize those localities that have taken the lead in CSO control by imposing upon them the expense and delay of modifying projects under design and/or construction. Aside from fairness, the proposed reviews are unworkable because many plans are now being implemented pursuant to consent orders or decrees that can not be modified without the agreement of all parties. Cities will be understandably reluctant to agree to modify orders negotiated in good faith in reliance on then existing federal and state guidance and policy when changes to the program cause additional delay and expense for already costly programs. The CSO Partnership and the League have proposed changes to the language in the Policy that it believes provide a more workable provision.

It is important that any CSO plan be designed to meet water quality standards including programs already completed or in the planning stage. However, few CSO programs will be able to demonstrate compliance with water quality standards unless the policies of "III - Coordination with State Water Quality Standards" are implemented as a part of the review of these existing programs. This can be addressed at least in part by requiring a WQS review as a part of the plan evaluation for large CSO service areas.

#### **SMALL SYSTEMS CONSIDERATIONS**

The National League of Cities has information that the median population served by combined sewer systems is approximately 5,000. While we recognize that Policy has provided some relief for small systems, we are concerned that these very small cities will face heavy burdens for both studies and facility construction.

The National League of Cities and the Partnership believe that some relief from these burdens might come from a better recognition of the opportunities offered by alternative technologies. The Clean Water Act contains a number of provisions encouraging the use of alternative technologies. Section 201(f) of the Act specifically encourages treatment options incorporating open space and recreational considerations. Experience with utilization of ponds and wetlands designed and managed for wastewater treatment and water quality enhancement suggests that such alternative technologies offer the prospect of effective CSO storage and/or treatment at reduced capital and operating costs. Depending on local conditions, such approaches may also provide habitat enhancement, storage of storm flows and gradual release for low flow augmentation and preservation of open space with aesthetic and recreational value. In addition, such approaches may avoid adverse impacts on shoreline habitat and recreational uses resulting from construction of conventional storage and treatment facilities. Language should be added to Section II.C.3 of the Policy which encourages permittees to consider and permitting authorities to approve innovative and alternative technologies as appropriate for CSO control. EPA should prepare separate guidance and case studies regarding utilization of alternative and innovative technologies for CSO control.

**FUNDING**

The CSO Partnership and the League recognize that EPA cannot make compliance with the Clean Water Act and NPDES permit requirements contingent on grant funding. While, as noted above, the Partnership is encouraged by EPA's recognition of the importance of financial considerations, we do suggest that EPA acknowledge the need for grant funding for CSO control. We have proposed language changes in Section I.E to include this point.

**NINE MINIMUM CONTROLS**

The CSO Partnership and the League support the implementation of the "Nine Minimum Controls" in the first phase of the long term CSO Control Plan. In some cases, however, we do not agree with specific actions listed in Attachment 1 to the Policy (which we understand were intended to provide examples of how these controls might be implemented or documented). The guidance must be carefully developed. The attachment to the Policy, while it contains some interesting ideas, does not have the guidance that is needed. For example:

1. Installation of inflatable dams, computer flow controls, bar screens, or booms: These projects may be appropriate at some locations as part of a long range plan. However, they are not generally short term or temporary measures that we believe EPA had intended as part of the nine minimum controls. Computer flow control, for example, is not simply installing a PC on the Chief Operator's desk. It is a system which requires sensors, communications, telemetry, customized software, automatic actuators, and flow control hardware. If such a system is installed without proper support, improper operation could actually exacerbate an overflow and cause severe upstream flooding problems.
2. Promote water conservation: Conservation, as a general principal, is desirable. However, in communities that draw their water from large, dependable surface sources, the significance of water conservation is minimal. In the context of CSOs, the base flow (which is the only component that would be affected by water use conservation) is generally a small fraction of the total discharge. Therefore, the decrease of the "sanitary" component would not likely affect the threshold level of a combined sewer discharge.
3. Revisions to existing pretreatment programs: The CSO Partnership believes innovative pretreatment programs can be an important part of CSO control programs. However, to the extent that such components of the controls are intended to limit industrial and commercial sanitary discharges during wet weather (for discharges in CSO tributary systems), it is not practical as part of the nine minimum

controls. There is an implication in this suggestion that industries located in combined sewer areas might be required to either shut down a plant (idling its workers) during rain or install more stringent levels of pretreatment than would otherwise be required for an indirect discharger under 40 CFR Part 403. Guidance in the pretreatment program contemplated separate base standards [403.5] for discharges to each POTW in a community with two or more treatment plants. However, in most cases, the National Categorical Standards have been more stringent and/or the community has chosen to use the more stringent POTW based standard for all dischargers. When such increased levels of pretreatment would only be needed during certain rain events, however, we do not think that it is realistic to expect affected communities to implement more stringent discharge standards for industries in CSO areas by 1997.

The Policy should be issued without Attachment 1, and the Agency should concentrate on finishing the guidance document that is being drafted to explain these controls.

#### **FIXED-DATE COMPLIANCE SCHEDULES**

In Section II.C of the Policy [page 13], EPA states that the long term CSO control program should include a "fixed-date project implementation schedule (which may be phased)." The meaning of a "fixed-date" schedule juxtaposed with the acknowledgment that implementation schedule "may be phased" could cause confusion in the implementation of the Policy. The CSO Partnership recognizes the need to provide certainty that the requirements of the Clean Water Act vis-a-vis CSO discharges will be met. The Partnership believes that this certainty can be maintained by appropriately requiring construction or implementation of later phases of the long term control program follow completion of earlier phases. Such an approach is more realistic in that often the scope of and need for later phases of CSO control programs will be determined after the effectiveness of initial phases has been assessed. This interpretation is consistent with the language in the Policy, but the Policy would be more clear if the words "fixed date" were omitted from this paragraph.

The interpretation of this particular requirement is critical to the central theme of this Policy -- that communities must be able to implement these long term control programs. A long-term, i.e., greater than 5-10 year, schedule with specific implementation dates which is incorporated into an enforceable administrative or judicial order can make it more costly or even impossible for a community to finance the earlier phases of the project. This is because when rating agencies review a community's ability to repay a particular bond issue, these agencies look at the total likely indebtedness of the community. It is this review that determines what the bond rating will be, or whether the community can issue the debt at all.

If a community is under an enforceable order to undertake specific construction projects on specific dates, the cost of these projects, including the debt financing, will be incorporated into the calculation of risk for the present bond issue, increasing the level of risk, and therefore the financing costs, of the present issue. In the extreme, the bond rating agencies could decide that the construction program is beyond the means of the community and therefore rate its present issue as highly risky, effectively preventing the community from borrowing money -- and possibly delaying implementation of the program. By contrast, if the obligation includes a requirement to schedule additional phases or projects following completion of earlier projects, the cost of these later projects does not directly impact the rating of the earlier bond issues. In many communities sewerage projects compete with schools, police, fire and other community needs for capital dollars, and the inclusion of long term schedules with specific construction dates may affect many more projects than just CSO control.

### SENSITIVE AREAS

The CSO Partnership and the League support the goals of the provision in the Policy that suggests "sensitive areas" should receive special consideration. However, we believe that the language implementing this principle at Section II.C.2.b. [page 17] is confusing. The language reads as requiring that overflows to sensitive areas be eliminated or relocated "wherever physically and economically achievable." This language does not seem to set forth a standard that is either clear or consistent with the structure of the WQS. As the Policy makes clear, the focus of control programs must be to comply with WQS. To a large extent, the areas defined as "sensitive" by the Policy are identified in WQS, often through designated uses. Thus, the process of reviewing areas where CSOs discharge and planning control programs that will meet WQS are likely to lead the appropriate level of control for these areas because of their designated uses. Attempting to adding a "special" level of review, particularly one which is so ill-defined, will complicate, rather than improve, the decision-making process for selecting controls for these areas.

Further, the assumption that any discharge to a sensitive area has an adverse impact is false. As with other CSO discharges, these must be considered in light of the conditions in the receiving water, the impact of CSO discharges, and the impacts of other sources of pollution. The provision as drafted does not allow these considerations and could cause CSOs cities to delay or forego addressing serious CSO problems in areas which do not carry a label of "sensitive." It is appropriate, however, to eliminate or relocate overflows where it is cost effective, and we suggest the sensitive area provision be revised to reflect this. The attached copy of the Policy shows these language changes.

**DEMONSTRATION APPROACH**

While the "presumption" and "demonstration" approaches in Section C.3. are described as alternatives, the CSO Partnership and the League are concerned that the Policy could be interpreted to impose an enormous, perhaps insurmountable, burden in satisfying the demonstration alternative. If this were the case, the result would be that the criteria in the presumption approach will effectively become minimum national standards, a result that we do not believe is intended by EPA. The problem is the language that requires the permittee to demonstrate that the controls are "clearly" adequate to meet water quality standards. Wet weather discharges such as CSOs involve highly complex issues relating to water quality standards compliance that are not easily resolved through traditional data analysis and modeling. The cost of sophisticated analytical techniques is high enough that few cities will have the resources to produce documentation that will "clearly" be accepted as having met this standard. To make the two approaches true alternatives, we suggest that more realistic standards demonstration language be included.

Section C.B.ii. as worded could be misinterpreted to mean that if WQS violations are not due to natural background conditions that CSO must be eliminated. It is our understanding that the intention of this paragraph is that the CSO controls must be adequate to meet WQS in the absence of background conditions. We suggest the paragraph be modified to reflect this.

Further, we question the appropriateness of including the requirement in the demonstration approach [Section C.3.b.iii.] that the permittee show that the selected controls will provide the "maximum pollution reduction benefits reasonably attainable." If the permittee has complied with the 9 minimum controls and met WQS, imposing additional control requirements that have little additional environmental benefit is control for the sake of control. It is appropriate, however, to indicate that the controls be cost effective and operated to provide the maximum pollution reduction benefits reasonably attainable.

The attached redlined version of the Policy contains changes to the language to incorporate the above points.

**PRESUMPTIVE APPROACH**

The presumptive approach included in the Policy is acceptable and compatible with progress toward controlling CSOs only if it is an equal alternative to the demonstration approach and not in any way a minimum requirement. This equal treatment approach is violated in Section IV.B.2.h. on page 39 which requires application of the presumptive controls if monitoring data indicate a plan does not meet WQS. There is no basis for requiring the presumptive controls as a matter of policy.

The text of the Policy states "aggregate national data suggest that incremental pollution control benefits at this level of control (4 overflows per year) are substantial compared to incremental costs for most CSO systems." The actual number of 4 overflows per year was not, as the text suggests, based on analysis of national data. However, it is our understanding that such an analysis is available to EPA, and we recommend that it be used to establish the target level of control. Based on discussions with US EPA staff, the required presumptive level would be reduced to 8-12 overflows per year if available technical analysis were used. An analysis of data developed for US EPA indicates that 8-12 overflows per year are equivalent to 73 to 67 percent capture by volume. It should be noted that 4 overflows per year is equivalent to approximately 80 percent capture not 85 percent capture.

In lieu of revising the number of overflows in the presumptive approach, EPA may strike the statement on page 20 that states the criteria were selected on incremental pollution control benefits and revise the basis to a non-technical policy based decision that may be modified on a case by case basis. However, it would be preferable to revise the figures to reflect actual data as suggested above. Our attached redlined Policy includes the preferred revisions.

The National League of Cities and the Partnership are also aware that some states have developed state standards for CSO control programs. For example, Illinois has found that there is evidence of a "first flush" and has developed regulations for CSO control around this concept. We suggest that the US EPA consider adding a fourth subsection to the "Presumption Approach" which supports state-developed criteria to be used in this approach.

Finally, we remain concerned about the requirement that "all flows" captured as specified in the presumption approach must receive minimum treatment equivalent to primary clarification. There are circumstances where flow through systems, such as, swirl concentrators, provide acceptable treatment for combined sewage at a comparatively low price. However, these systems have different performance levels over ranges of flows, and it is not clear how the term "all flows" will be interpreted. We would leave the WEF Manual of Practice as the standard but would make a minor language change shown in the attached redlined version to eliminate the word "all."

## **IMPLEMENTATION SCHEDULES**

The CSO Partnership and the League commented above on EPA's recognition that a community's financial resources must be considered in developing a schedule for its CSO control program. The Partnership and the League have two additional comments on Section II.c.7. First, guidance developed on financial capability should be based upon the cost of community-financed commitments, including all Clean Water Act programs. Second, included in the list of factors to be considered as part of a community's financial capability

is "ix. Other viable funding mechanisms and sources of financing." The Policy does not explain what these other items might be, and we are not aware of any sources of funding not included in the list. Unless at least one example is provided, this item should be removed from the list so as not to create the incorrect impression that CSO cities have additional funding options.

#### **WATER QUALITY STANDARDS**

The Partnership and the League have already commented on the Policy's recognition of the need for water quality standards that appropriately recognize wet weather conditions as one of the most important aspects of the Policy. We believe that the issue is important enough that the language in Section III.A [page 29] suggesting coordination among the state and federal regulators and the community developing a CSO control program should be strengthened. Changes are included in attached redlined version of the Policy.

#### **REOPENER CLAUSE**

The NPDES permit requirements spelled out in the Policy include a reopener clause in Section IV.B.2.h. This clause allows an NPDES authority to reopen a permit upon a determination that CSO controls which have been implemented fail to meet WQS. The CSO Partnership and the League believe that the last sentence of this paragraph, which requires use of the "presumption" approach in planning additional controls if the "demonstration" approach was used previously, is inconsistent with EPA's intent in establishing the two approaches as co-equal and likely to cause disruptions to what is otherwise a rational and systematic approach of achieving the most cost effective programs by adding to and expanding CSO controls. The ultimate goal of the Policy is, as required by the Clean Water Act, that operators of combined sewer systems meet WQS. Up until this point in the Policy, EPA has established a program that maintains that requirement but allows NPDES permittees flexibility to ensure that the programs designed to meet the requirements will make the best use of scarce resources.

Estimating the impacts of CSO discharges and the effects of controlling those discharges is a complex, difficult and imprecise task. It is highly unlikely that any community will precisely predict the impacts of completing CSO control programs. In some cases, the result will be much better than predicted, but in others, they will not achieve the planned improvements. This is true whether the program is planned using the "presumption approach" or using the "demonstration" approach. In imposing the requirement that if an initial program does not achieve the required result on the first try it must immediately go to a national standard, EPA is effectively eliminating an opportunity for flexibility that it has so carefully set out. The two approaches have been set forth as equally valid, and this part should be consistent with that principle. The attached redlined Policy includes the necessary change.

**CONCLUSION**

The CSO Partnership and the National League of Cities commend EPA for addressing the issues associated with CSO control in a straightforward, reasonable and realistic manner. EPA has presented a sensible and workable policy. The Partnership and the League look forward to implementing the Policy and moving forward with real CSO control.

ADDITIONS TO THE RECORD

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**AMERICAN PUBLIC WORKS ASSOCIATION**

1301 Pennsylvania Avenue, NW, Suite 501, Washington, DC 20004 (202)393-2792, Fax 202/737-9153

**STATEMENT FOR THE RECORD**

by **Gordon R. Garner**

**American Public Works Association**

regarding

**Clean Water Act Reauthorization**

given to the

**House Subcommittee on Water Resources**

**May 11, 1993**

This statement for the Record is being submitted by Gordon R. Garner, Executive Director of the Louisville/Jefferson County Metropolitan Sewer District, Louisville Kentucky and a member of the American Public Works Association (APWA). It is in Mr. Garners' capacity as President of APWA's Institute for Water Resources that this statement is being provided today.

The American Public Works Association is a nonprofit educational and professional association that is an outgrowth of the American Society of Municipal Engineers which was established in 1894. APWA is headquartered in Kansas City, Missouri, with a governmental affairs office in Washington, D.C. The purpose of the Association is to assist public works agencies in fulfilling their responsibilities and to enable people involved in this field to work together to improve their professional practice, thereby serving the best interests of the tax-paying public. Membership is comprised principally of local officials, by also includes strong representation from the federal and state levels of government. Educators and representatives of the private sector are also counted among our over 27,000 members. APWA defines public works very broadly as, "the physical structures and facilities developed or acquired by public agencies to house governmental functions and

provide water, waste disposal, power, transportation, and similar services to facilitate the achievement of common social and economic objectives." Both the membership and the interests of APWA reflect the breadth of that definition. The training and focus of our members, and hence our Association, are in the technical disciplines underlying the various aspects of public works engineering and administration.

To foster professional development among public works personnel. APWA has established a number institutes which focus on the following fields of activities: administrative management, buildings and grounds, equipment services, municipal engineering, transportation, solid wastes and water resources. The institutes exist to promote high standards of competence in each of these areas. They conduct surveys and studies, and collaborate with APWA's Education and Research Foundations in presenting training programs and conducting research projects. APWA's Institute for Water Resources focuses on the development and protection of water resources, management of water supply and distribution systems, wastewater collection, treatment and disposal, drainage and flood control, and other programs involving the use of water for the generation of power, irrigation, and recreation.

Our Association, on a whole, believes that amendments to the Clean Water Act are necessary to address increases in knowledge of pollution and recognition of new environmental problems since the last amendments to the Act were passed in 1987, to address certain technical matters, and to continue the federal commitment to provide resources to address water pollution. The Association has prepared a position paper that is provided for the record that recommends Congressional action in certain areas of clean water legislation. Before getting into the details, let me set the stage by stating that over the years the American Public Works Association members have become increasingly aware of their role as being good stewards of the environment. In 1991, the Association adopted a comprehensive policy on the environment which recognizes, among other things, the need for sustainable development. A copy of this policy is provided for the record. Our members clearly find

themselves on the cutting edge of environmental protection in their day-to-day work and take their work seriously. Nevertheless, many of our members also frequently find themselves engaged in activity for the public good for which a Sec 404 permit is required. The need to get a project accomplished to better serve the needs of the taxpaying public may therefore run headlong into the need to preserve wetlands. The wetlands issue has been a contentious issue for several years now, and this is the first aspect of the Clean Water Act that I would like to cover.

### Wetlands

This program cries out for reform. In recent years, the 404 program has been "clarified" by such documents as the Federal Manual for Identifying and Delineating Jurisdictional Wetlands and various Memoranda of Agreement (MOA's) between the regulatory agencies. Although these documents have been somewhat helpful in determining what constitutes a wetland and what measures should be instituted to compensate for destruction of wetlands, they have had the practical effect in the minds of many to make it exceedingly difficult to secure a permit in a timely fashion, if at all. Moreover, when permits are granted, mitigation is being required with increasing frequency. In addition, although it is clearly recognized that wetlands make an invaluable contribution to the aquatic ecosystem, it is not at all clear that all wetlands, of themselves, are invaluable. Therein lies a problem which requires national attention and which we hope the Congress will seriously address during this session. Toward this end, our association urges that Congress, when addressing Sec 404 of the Clean Water Act, recognize that wetlands in general make an invaluable contribution to the quality of life and well being of the country. In addition, we also urge that Congress recognize that public works infrastructure projects based on sound engineering and economic decisions contribute to the quality of life and well being of this country as well. A balance between these two often competing interests must be struck.

One way that we believe this can be accomplished is by passing legislation that requires a three tiered classification system for wetlands. Such a system would consider the relative importance of wetlands e.g. invaluable wetlands, significant wetlands and low value wetlands. A system for regulating and managing wetlands can then be established that would allow development in low value wetlands without compensatory mitigation, allow development in significant wetlands with compensatory mitigation, and would generally preclude development in invaluable wetlands unless there is a compelling public interest reason and only after all feasible and practicable compensatory mitigation is provided. A copy of APWA's position paper on wetlands which elaborates on this position is being provided herewith for the record.

#### Stormwater and CSO's

The stormwater permitting process is a new program that is becoming a tremendous burden to municipalities which are being threatened with unrealistic numerical effluent limitations for stormwater discharges. Because stormwater systems are not treatment systems, imposition of specific effluent limitations is not practical and cannot be cost effective in most cases. APWA supports a change in approach to these permits to use quality management programs or best management practices as the primary means to achieve water quality standards before any treatment alternatives are required. EPA must then develop water quality standards appropriate for stormwater and CSO's that are reasonable and achievable. It must also be recognized that the effectiveness of technologies to abate the impact of combined sewer overflows (CSO's) is uncertain as is local government authority and capability to institute controls of toxic pollutants from stormwater run-off and from domestic sources. The association believes that such efforts would be better advanced through demonstration projects and abatement plans by municipalities. These projects should be allowed some flexibility to evaluate available

means of abating the impact of pollutants from these sources. In accomplishing this, recognition must be given to the site specific nature of CSO controls.

#### Financing

Available resources to improve our water resources are limited. Federal, state, and local governmental funds are inadequate for many existing programs and are not readily available to institute new programs. Consideration must be given to the costs and benefits at all governmental levels of any new initiatives to insure that they can be and should be supported by public money and staffing resources. Additional improvements should therefore be required and undertaken only if they can be economically justified, i.e. the benefits derived exceed the costs of implementation. Moreover, it should be recognized that communities are unable to undertake stormwater and CSO controls beyond the limits of their financial resources. Officials and professional at all levels are currently unable to effectively meet the demands of the current Act, and their ability to undertake additional programs is questionable. The ability of these people to obtain funds to institute such programs given the current economic climate is also uncertain. APWA also feels very strongly that if the federal government is going to mandate national standards then it should pay for its mandates. State and local governments can no longer afford legislative initiatives from Washington that tells them what to do while leaving the responsibility to these governments for finding the necessary funds.

#### Research

The APWA has also established policy regarding research and development. It has found that increased research and development to solve the environmentally related problems of local governments is a pressing national need and supports programs to stimulate research and development to meet this need. APWA also

supports authorization and funding of the National Academy of Sciences to evaluate research and development programs and to explore the feasibility of expanding the environmental research programs to provide authoritative information to policy-making officials on environmental issues and to more effectively respond to the environmental research needs of state and local governments. Such an effort would permit more informed judgments in establishing policy and in writing legislation such as future amendments to the Clean Water Act.

The American Public Works Association appreciates this opportunity to provide our views on Clean Water Act reauthorization. We stand ready to assist in any way possible.

## AMERICAN PUBLIC WORKS ASSOCIATION

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Source: IWR

APWA Position Paper**CLEAN WATER ACT***Approved by the IWR Executive Council on August 30, 1992**Approved by the Panel on Policy Review on March 8, 1993**Approved by the Executive Committee of the Board of Directors on March 8, 1993*Position

Amendments to the Clean Water Act are necessary to address increases in knowledge of pollution and recognition of new environmental problems since the last amendments to the Act in 1987, to address certain technical matters, and to continue the federal commitment to provide resources to address water pollution.

Available resources are limited. Federal, state, and local governmental funds are inadequate for many existing programs and are not readily available to institute new programs. Consideration must be given to the costs and benefits at all governmental levels of any new initiatives to insure that they can be and should be supported by public money and staffing resources. Additional improvements should therefore be required and undertaken only if they can be economically justified, i.e. the benefits derived exceed the costs of implementation.

Officials and professionals at all levels are currently unable to effectively meet the demands of the current Act, and their ability to undertake additional programs is questionable. The ability of these people to obtain funds to institute such programs given the current economic climate is also uncertain. The effectiveness of technologies to abate the impact of combined sewer overflows (CSO's) is uncertain as is local government authority and capability to institute controls of toxic pollutants from stormwater run-off and from domestic sources. Such efforts would be better advanced through demonstration projects and abatement plans by municipalities. These projects should be allowed some flexibility to evaluate available means of abating the impact of pollutants from these sources.

Wetlands protection is very important to clean water. Although the Senate in the 102nd Congress did not wish to address wetlands, as part of reauthorization, APWA believes the issue must be addressed. APWA previously has developed a resolution with regard to this matter and asks that the wetland program be changed as part of reauthorization in accordance with this resolution. Briefly, the position taken by APWA is that although wetlands make a valuable contribution to the quality of life, so too do sound public works

infrastructure projects. Therefore, a balance must be achieved between wetlands protection and infrastructure development. APWA has also taken the position that all wetlands are not of equal importance and that this should be recognized in the development and administration of the Sec. 404 program.

The APWA policy on CSO's specifies that in addressing this issue, recognition must be given to the site-specific nature of CSO controls. Moreover, it should also be recognized that communities are unable to undertake CSO controls beyond the limits of their financial resources.

The APWA resolution on Environmental Policy espouses principles that relate to any environmental law or action. These include a stipulation for sustainable development, pollution prevention, recognition of the need for sustainable energy sources, prioritization of resources, education and enhanced research and development.

The APWA has also established policy regarding research and development. It has found that increased research and development to solve the environmentally related problems of local government is a pressing national need and supports programs to stimulate research and development to meet this need. APWA also has supported authorization and funding of the National Academy of Sciences to evaluate research and development programs and to explore the feasibility of expanding the environmental research program to provide authoritative information to policy-making officials on environmental issues and to more effectively respond to the environmental research needs of state and local governments.

The stormwater permitting process is a new program that is becoming a tremendous burden to municipalities which are being threatened with unrealistic numerical effluent limitations for stormwater discharges. Because stormwater systems are not treatment systems, imposition of specific limitations is not practical and cannot be cost effective in most cases. APWA supports a change in approach to these permits to use quality management programs or best management practices as the primary means to achieve water quality standards before any treatment alternatives are required. EPA must then develop water quality standards appropriate for CSO's and stormwater that are reasonable and achievable. This approach is being discussed in greater detail by the National Association of Flood and Stormwater Management Agencies. APWA also feels very strongly that if the federal government is going to mandate national standards then it should pay for its mandates. State and local governments can no longer afford legislative initiatives from Washington that tells them what to do while leaving the responsibility to these governments for finding the necessary funds.

The APWA is aware that an analysis of proposed amendments to the Clean Water Act is also being conducted by the Water Environment Federation and

urges that all parties working toward reauthorization of the Act carefully consider the comments of this group of environmental professionals.

#### Issue

The 103rd Congress will be considering amendments to the Clean Water Act sometime within the next two years. Most recently amended in 1987, this law is the foundation for federal, state and local efforts to insure ground and surface water quality. Both the costs and benefits of the existing law have been enormous. The amendments as presented in legislation introduced in the 102nd Congress (S.1081) and expected in the 103rd Congress would greatly expand the responsibilities and obligations of federal, state, and local governments.

#### Rationale

The membership of the American Public Works Association is largely responsible for the administration of water pollution control and industrial permitting programs and seeks to insure the development of the best laws and regulations to reasonably address water quality objectives.

## AMERICAN PUBLIC WORKS ASSOCIATION

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### APWA Policy Statement

#### ENVIRONMENTAL POLICY

Approved by the Task Force on  
Environmental Policy on August 9, 1991  
Approved by the APWA Board of Directors on August 25, 1991

### Policy

The American Public Works Association supports an environmental policy embodied in the following six (6) principles and their supporting position statements:

**PRINCIPLE #1:** One of the highest goals of all environmentally concerned citizens and governmental entities must be to develop long-term environmental strategies for sustainable development. Sustainable development is defined as growth or development that, through the use of appropriate technologies, policies and programs, satisfies existing needs without compromising our environment, or the ability of future generations to adapt to evolving environmental and development needs. Environmental and socioeconomic concerns need not be in conflict, but are intertwined. They should result in long-term environmental and economic progress for a healthier and more stable world that recognizes the need to protect and enhance irreplaceable ecosystems.

**PRINCIPLE #2:** Pollution prevention, including source reduction and all forms of recycling and reuse, provides a framework for solving and avoiding environmental problems with efficiency and innovative technology. Pollution prevention should be emphasized as the front line of environmental defense, thus decreasing our reliance on the more traditional disposal and pollution treatment methodologies.

**PRINCIPLE #3:** Federal governments in cooperation with state/provincial, regional and local governments, the private sector and the public, must develop a sound and effective comprehensive energy policy which recognizes the goal of maintaining and improving the quality of the environment, emphasizing the use of sustainable energy sources, energy efficiency and conservation.

**PRINCIPLE #4:** Due to limited availability of resources, environmental protection efforts and remedies of past practices,

should be prioritized on the basis of opportunities for the greatest risk reduction.

PRINCIPLE #5: Promote a spirit of environmental stewardship through education, communication and coordination. This should be done by emphasizing the early coordination and continuous involvement of federal, state/provincial, regional and local governments, private businesses, interest groups, communities and interested individuals.

PRINCIPLE #6: There must be a strong commitment to the enhancement of research and development activities that evaluate the environmental risks and benefits of public works policies and programs.

#### Issue

In the United States, according to EPA, there has been a thirteen million ton increase in the amount of waste generated annually between 1986 and 1989. Also, environmental resources, including clean air, land and water are under increasing pressure from energy related and non-energy related developments. To assist in compliance and clean-up, during the past twenty years Congress has passed an impressive array of environmental laws, each adding stricter and more costly requirements. Still, a comprehensive, global, ecological perspective needs to be taken in solving our problems. This would include public education, communication and close coordination of all levels of government. It also includes a renewed commitment to environmental R&D. Finally, long-term environmental strategies must provide for sustainable development if a healthier and more stable world is to thrive.

#### Rationale

Members of the American Public Works Association (APWA), public agency and individual members, alike, have responsibility and concern for the protection, enhancement and sustainability of the environment while simultaneously providing the total spectrum of public works services and facilities that form the physical structure of our nation and communities. In addition, federal, state/provincial, regional and local governments are continually reshaping environmental policies and priorities to balance economic growth and public works development. Such governments should benefit from the advice and counsel of public works professionals. To assist the membership in discharging their duties, the foregoing environmental policies and principles have been developed which provide guidance for APWA and its membership.

**AMERICAN PUBLIC WORKS ASSOCIATION**

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APWA Position Paper**WETLANDS PROTECTION**

Approved by the Executive Committee of the  
Institute for Water Resources on February 23, 1991  
Approved by the APWA Board of Directors on March 19, 1991

Position

The American Public Works Association believes that although wetlands make a valuable contribution to the quality of life and well being of the country, public works infrastructure projects, based on sound engineering and ecological and economic decisions, also contribute significantly to the nation's quality of life and economic well being. A balance must therefore be struck between wetlands preservation and infrastructure development. Since all wetlands are not of equal value, APWA believes a three-tiered classification system is needed to classify wetlands for which Sec. 404 permits are being sought. This system should consider the relative importance of wetlands, e.g. low value wetlands, significant wetlands, and invaluable wetlands. APWA further believes that in administering the Sec. 404 program, a system for regulating and managing wetlands developed around this classification system is required which will: (1) allow development in low value wetlands without compensatory mitigation; (2) allow essential infrastructure development in significant wetlands with compensatory mitigation; and (3) generally preclude infrastructure development in invaluable wetlands unless there are compelling public interest reasons and all feasible and practicable compensatory mitigation is provided.

Issue

The Congress of the United States in Sec. 404 of the Clean Water Act established what has become a wetlands protection program by vesting responsibility with the Secretary of the Army through the Chief of Engineers for controlling discharge of dredge or fill material into waters of the United States. The ensuing permit process often does not allow for timely decisions by the Federal Government in approval or denial of permits, thereby contributing to schedule delays and resulting in additional project costs. Moreover, denial of Sec. 404 permits may result from the failure to strike the proper balance between infrastructure development and wetlands protection.

Rationale

American Public Works Association members are involved in activities for the public good, which may often run headlong into the need to protect and preserve the environment, particularly wetlands. A classification system for classifying wetlands must be developed which will allow for the more effective administration of the Sec. 404 program and a better balancing of infrastructure development with the need to preserve wetlands. Without such a system, meritorious infrastructure development projects will continue to be delayed and in some cases denied.

## Testimony

Clean Water Act Reauthorization  
U.S. House of Representatives  
Committee on Public Works and Transportation  
Subcommittee on Water Resources and Environment

by  
Ralph H. Brooks  
Vice President, Water Management  
Tennessee Valley Authority  
Knoxville, Tennessee

May 12, 1993

TVA is pleased to be able to share its views on a watershed approach to improving water quality. TVA is a regional agency. Its area covers 201 counties located in seven states. At the heart of this region is the Tennessee River watershed itself.

TVA has 60 years of experience building and operating dams on the Tennessee River system. There are 39 dams. They are operated for navigation, flood control, electric power, recreation, mosquito abatement--and water quality--purposes. The Tennessee River watershed is perhaps the most comprehensively regulated watershed in the United States.

With this much control over the watershed, many Valley citizens believe TVA should address water pollution problems. Since we have no regulatory authority over what people put into the water, we have developed an alternative approach that has been successfully applied to several watersheds within the system. We work with state and federal agencies, landowners, interest groups and the general public in a forum of cooperative problem solving to identify water pollution problems and find voluntary solutions.

TVA believes the approach taken by the Congress to address nonpoint pollution in the Clean Water Act should recognize some key principles borne out by our experience with water quality improvement efforts in the Tennessee Valley. These principles are:

By using established best management practices (BMPs), large amounts of nonpoint source pollution can be reduced at relatively low cost. There is no reason to further delay actual implementation of BMPs to reduce nonpoint source pollution. We have the technical knowledge. It does not require exotic new equipment. Most pollution can be controlled from most parcels of land with a few, simple practices.

TVA's objective has been to try to capture this large environmental benefit by demonstrating to landowners how much environmental return can be achieved for their community--and perhaps some economic benefit for themselves as well--by taking these low cost actions. When other Federal programs have been available to reimburse part of this cost, we have worked with the landowners to qualify them for these programs.

Many nonpoint source pollution problems can be corrected through voluntary, cooperative agreements. A partnership of landowners, business and industry, state regulatory and resource management agencies, federal agencies, and community leaders can be an effective coalition for change. Such partnerships are efficient because no new bureaucracy must be created to implement regulations, and adversarial actions and litigation are avoided. The solutions have staying power because they are based on an understanding of the causes of pollution problems and the benefits of corrective actions.

Incentive programs are a key element to successful partnership arrangements. TVA and other federal agencies have entered into cost-share agreements with landowners to implement best management practices; landowners bear a portion of the cost and agree to implement and incorporate these practices into their operations. Landowners frequently see the benefits both to themselves and to their communities by adopting BMPs. In the agricultural nonpoint source sector, TVA has found that generally well over half and, in some cases, as many as 90 percent of landowners participate in partnerships and incentive programs.

Limited resources have to be targeted toward priority problems within the watershed The foundation for effective targeting is understanding the condition of water resources through water quality and ecological monitoring and assessments. In the agricultural nonpoint source sector, for example, we have found that only half the farms are implicated in pollution problems in any given watershed. A problem-oriented approach to the assessment of water quality data helps determine the members to a partnership (i.e., who is affected or implicated by the problem) and the size of the watershed area addressed by each partnership. By using this type of data to target resources, funding agencies can realize maximum benefit at least cost.

Pro-active communications, public relations, and educational programs are all key to the partnership approach. Landowners contributing to nonpoint source problems are more likely to participate if they understand--in simple terms--what the problem is, how their activities contribute to the problem, how the solution works, and what benefits will be achieved. Having decided to participate, landowners help community leaders and government agencies find more efficient solutions to the problems.

There are some problems that require further research before either a partnership or a regulatory approach can succeed. We need research to identify cost-effective wastewater treatment methods for the 1100 communities of 5000 people or less in the Tennessee Valley who cannot afford conventional sewage treatment. We also need additional evaluation of the eight lakes and three streams that are posted with fish consumption advisories due to chemical contamination. Some of these advisories have been in effect for almost a decade. We are no closer today to understanding what it will take to get contamination reduced to a safe level than when the advisories were first made.

We have come to these conclusions from our decades of experience dealing with water resources and water quality issues on the Tennessee River and its tributaries. Our more recent experience with two specific programs is illustrative and instructive. The two programs are the Bear Creek Floatway project and the Land and Water 201 Program.

The river below Bear Creek Dam in Alabama flows through a beautiful gorge and offers whitewater rapids that attract rafters and canoeists from a wide area. But in 1984 the floatway was closed to recreational use because of high fecal coliform concentrations. Aerial photographs and targeted monitoring showed that the main problem was lack of adequate animal waste management on many small farms.

The Bear Creek Floatway was cleaned up by a cooperative effort. The Alabama Department of Environmental Management worked to upgrade treatment levels for point source discharges. TVA provided expertise in monitoring water quality, analyzing aerial photos, and targeting priority nonpoint sources for cleanup. The Soil Conservation Service provided expertise in working with livestock operators to design and install waste management facilities. The Agricultural Stabilization and Conservation Service provided expertise in developing contracts with the operators and arranging for payment of cost-share monies. The Bear Creek Floatway Advisory Committee provided guidance for educating the operators and inspecting installed systems. And, finally, landowner participation ensured that the pollution sources would be cleaned and maintained.

Agencies and local farmers halted nonpoint source pollution from livestock operations and reopened the recreational floatway. The landowners and recreationists benefited--and it also eliminated a source of pollution that affected the Tennessee River.

These results were obtained by installing 140 animal waste management systems on 50 farms. The systems included limiting livestock access to streams, providing alternative watering sources, treating wastewater effluent and polluted runoff, and land application of waste. Some systems involved innovative technologies, like constructed wetlands, and one solution to control releases from runoff treatment basins was patented.

The total cost for the systems was \$1.2 million with just over 20 percent paid by participating farmers. The remaining cost-share funding was provided by TVA under a special Congressional appropriation. The project removed waste equivalent to raw sewage from 15,000 people from the floatway at a cost of less than one-fifth the cost for treating a comparable amount of domestic waste. When completed in 1990, this project demonstrated that the watershed approach could effectively restore degraded water quality at a reasonable cost.

The Land and Water 201 Program was established in 1984 as a cooperative effort among the seven Valley states, the U.S. Department of Agriculture, the U.S. Environmental Protection Agency, and the Tennessee Valley Authority. It is based on the premise that many agencies working together can more quickly and effectively solve complex resource management problems. The purpose of the program is to serve as a national demonstration in improving water quality, reducing soil erosion, and increasing rural income.

A long-range plan developed for the 201-county region identifies \$6 billion of total resource management needs. Over half of these needs will be met by the year 2000 through existing programs. An economic analysis indicates that at least \$3 of benefits will be derived for each \$1 of expenditure. Since 1984, many projects in the region, like the Bear Creek Floatway Project, have benefited by the coordination and joint participation achieved through the Land and Water 201 Program.

TVA has now adopted this watershed management approach for all of its water quality efforts. All of these programs were recently combined into a single program, given new focus, and strengthened. We call it our Clean Water Initiative. Its goal is to help the Tennessee River system become the cleanest, most productive commercial river system in the Nation by the year 2000.

We use comprehensive water quality monitoring, novel public communication methods, River Action Teams, and cost-sharing partnerships.

Monitoring -- For years TVA has conducted a water quality monitoring program. We think it is the most comprehensive monitoring program in the Nation. TVA scientists now monitor conditions at key locations on most of the 35 reservoirs in the Tennessee River system and on major streams. They run over 8,000 tests annually on fish, water, and sediment samples.

Our monitoring program combines conventional water quality monitoring and ecological monitoring. We keep tabs on a broad range of physical and chemical variables in sediments, fish, and water. And we monitor the organisms that live in the water because these organisms can provide clues to help identify low levels of pollution or intermittent pollution episodes that otherwise might not be detected.

Communication -- Another part of the Clean Water Initiative is the RiverPulse river performance report. RiverPulse is a milestone because it presents, for the first time, complex technical information about TVA reservoirs in an easy-to-understand format. Based on monitoring results, RiverPulse gave answers to the three most common questions asked by TVA river system users: Where is it safe to swim? Are the fish safe to eat? Are the conditions adequate for aquatic life?

RiverPulse is an important part of our public communications effort because it helps people who are interested in water quality set river cleanup goals and track progress toward meeting them. If we want river system users and the public to get involved in river cleanup, we must make sure that they know what the problems are.

River Action Teams -- On January 20, 1993, TVA announced plans and locations for River Action Teams designed to facilitate solving the concerns identified by our monitoring. A River Action Team is a group of about six TVA experts in environmental science and engineering, aquatic biology, and other disciplines. Their job is to work in a watershed with government agencies, interest groups, landowners, and the general public to protect the ecological integrity and appropriate human uses of Valley water resources. They assess the status of water resources, identify the root causes of problems, and develop and help implement projects that resolve these problems. Projects focus not only on pollution cleanup where uses are impaired, but also on protection and restoration of aquatic habitat.

The River Action Teams we expect to create will be formed around watershed areas of about 2,000 to 4,000 square miles. These areas are large enough to allow watershed, reservoir, and tailwater interactions to be captured, yet not too large to be addressed by a small team.

TVA believes it has a cooperative problem-solving approach that will work anywhere. Our program emphasizes water quality monitoring, public communication, River Action Teams, targeting of problems, and cost sharing.

River cleanup is important. TVA's experiences indicate that cooperative problem solving at the watershed level is the best approach. It provides an opportunity for development of low-cost, site-specific solutions. Innovative methods can be tried that take advantage of local conditions. Local cost sharing ensures careful management of funds.



## Charles J. Chvala

### State Senator

TESTIMONY OF CHARLES J. CHVALA,  
 SENATOR, 16TH DISTRICT, WISCONSIN,  
 BEFORE THE HOUSE WATER RESOURCES  
 AND ENVIRONMENT SUBCOMMITTEE  
 MAY 12, 1993

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE:

I WANT TO THANK YOU FOR THE OPPORTUNITY TO DISCUSS NONPOINT SOURCE POLLUTION, A CRUCIAL ENVIRONMENTAL ISSUE WHICH IS TRULY THE LAST FRONTIER OF SURFACE WATER PROTECTION.

CLEARLY, REDUCTION OF NONPOINT SOURCE POLLUTION MUST BE A KEY COMPONENT OF THE RE-AUTHORIZED CLEAN WATER ACT. WITH THE RECENT OUTBREAK OF CRYPTOSPORIDIUM IN MILWAUKEE'S WATER SUPPLY AND A SMALLER OUTBREAK IN NEARBY SHEBOYGAN, THE NEED TO ELIMINATE THIS PERVERSIVE AND PERNICIOUS TYPE OF POLLUTION FROM OUR SURFACE WATER COULD NOT BE ILLUSTRATED MORE DRAMATICALLY.

IT IS HARD TO BELIEVE IN THIS ERA OF ADVANCED TECHNOLOGY AND ENVIRONMENTAL ENLIGHTENMENT THAT MORE THAN 800,000 PEOPLE IN A MAJOR METROPOLITAN AREA OF THE UNITED STATES WERE FORCED TO BOIL WATER BEFORE DRINKING IT AS THOUGH THEY WERE LIVING IN A MEDIEVAL WORLD. YET MILWAUKEEANS WERE FORCED TO LEARN FIRSTHAND THE EFFECTS OF NONPOINT SOURCE POLLUTION.

FORTUNATELY, NONPOINT SOURCE POLLUTION CAN BE REDUCED INEXPENSIVELY, OFTEN WITH SIMPLE CHANGE IN MANAGEMENT TECHNIQUES. BUT WHATEVER THE COST, WISCONSIN SHOULD NOT BECOME AN ISLAND IMPOSING GREATER COSTS ON ITS FARMERS AND BUILDERS WHILE OTHER STATES IGNORE THE THREAT OF NONPOINT SOURCE POLLUTION. WISCONSIN AND OTHER STATES SHOULD NOT BE PUNISHED FOR ACTING RESPONSIBLY TO PROTECT OUR WATER QUALITY.

FEDERAL ACTION IS NECESSARY TO ASSURE CONSISTENCY AND PROVIDE THE DIRECTIONS TO CLEAN UP THIS LITTLE-KNOWN BUT DANGEROUS THREAT TO OUR ENVIRONMENT. WE SPEND BILLIONS OF DOLLARS EVERY YEAR TO ASSURE THAT MUNICIPAL SEWERAGE SYSTEMS, INDUSTRIAL DISCHARGERS AND OTHER POINT SOURCES OF POLLUTION ARE REDUCED AND ELIMINATED. BUT WE HAVE IGNORED THE POLLUTION THREAT JUST UPSTREAM - THE MISMANAGED CONSTRUCTION SITE OR A GROUP OF FARM ANIMALS THAT POLLUTE THE WATERWAY.

-1-

WE HAVE SIMPLY WAITED TOO LONG TO TAKE ACTION. WHILE FOCUSING OUR ATTENTION ON CONTROLLING INDUSTRIAL WASTE, WE HAVE NEGLECTED THE PROBLEM OF NONPOINT SOURCE POLLUTION. IN WISCONSIN ALONE, NONPOINT SOURCE POLLUTION ACCOUNTS FOR 65% OF THE POLLUTION IN OUR WATERWAYS. AS A RESULT, THE STATE DEPARTMENT OF NATURAL RESOURCES ESTIMATES THAT 40% OF OUR STATES CREEKS AND RIVERS AND 93% OF OUR LAKES HAVE BEEN DEGRADED OR THREATENED BY POLLUTANTS FROM RUNOFF.

I CHAIRED A SPECIAL LEGISLATIVE COUNCIL SPECIAL COMMITTEE ON NONPOINT SOURCE POLLUTION IN WISCONSIN WHICH EVENTUALLY CREATED THE NONPOINT SOURCE POLLUTION BILL THAT WAS PASSED BY THE LEGISLATURE. THE GROUP INCLUDED FARMERS, BUILDERS, ENVIRONMENTALISTS AND REPRESENTATIVES OF CITIES AS WELL AS DEMOCRATIC AND REPUBLICAN LEGISLATORS. WE HEARD TESTIMONY FROM HUNDREDS OF PEOPLE, AND AFTER MUCH AGONIZING DEBATE WE CRAFTED WHAT WE BELIEVED TO BE A CONSENSUS, COMPREHENSIVE NONPOINT SOURCE POLLUTION BILL.

IT HAS LONG BEEN KNOWN THAT NONPOINT SOURCE POLLUTION FROM STORM RUNOFF, CONSTRUCTION SITES, ROADS AND FARMS HAS RESULTED IN THE DEGRADATION OR DESTRUCTION OF WATERWAYS AND HABITATS. TROUT FISHERMEN AND OTHER SPORTSMEN HAVE LONG COMPLAINED OF THE EFFECTS OF RUNOFF ON STREAMS.

DRAMATICALLY IMPROVING THE WATER QUALITY IN OUR LAKES AND STREAMS WAS THE IMPETUS FOR THE NONPOINT SOURCE LEGISLATION WE PASSED IN WISCONSIN LAST YEAR. WE SAW THE PROBLEM IN WISCONSIN, AND WE TOOK ACTION TO CORRECT IT. THE BILL I AUTHORED, KNOWN AS SB 281, ESTABLISHED SEVERAL NEW CONTROLS TO HELP REDUCE NONPOINT SOURCE POLLUTION IN WISCONSIN'S WATERWAYS.

THE BILL CONTAINED SEVERAL PROVISIONS, INCLUDING:

- \* A STATEWIDE CONSTRUCTION SITE EROSION CONTROL PROGRAM PAID FOR WITH BUILDER PERMIT FEES.

- \* REFORM OF THE STATE'S PRIORITY WATERSHED PROGRAM AND CREATION OF INCENTIVES FOR FARMERS AND OTHERS TO IMPLEMENT BEST MANAGEMENT PRACTICES VOLUNTARILY.

- \* CREATION OF A "BAD ACTOR" PROVISION IN STATE LAW WHICH ALLOWED THE STATE DEPARTMENT OF NATURAL RESOURCES TO FORCE PARTICIPATION IN BEST MANAGEMENT PRACTICES PROGRAMS IF WATER QUALITY IN A PRIORITY WATERSHED IS NOT SUFFICIENT TO MEET WATER QUALITY GOALS.

- \* GRANTING OF AUTHORITY TO THE STATE DEPARTMENT OF AGRICULTURE TO ORDER DRAINAGE DISTRICTS TO CORRECT POOR MAINTENANCE OF DITCHES.

FINALLY, THE BILL DIRECTED THE STATE DEPARTMENT OF AGRICULTURE TO CREATE A MODEL LIVESTOCK EXCLUSION ORDINANCE TO LIMIT UNCONTROLLED ACCESS OF ANIMALS TO LAKES AND STREAMS. UNFORTUNATELY, GOV. TOMMY THOMPSON VETOED MANY KEY PORTIONS OF THIS BILL.

IT IS MY HOPE THAT THE GOVERNOR WILL RECONSIDER AND SIGN LEGISLATION I WILL RE-INTRODUCE THIS YEAR, ESPECIALLY IN THE WAKE OF MILWAUKEE'S WATER CRISIS. THE BILL'S PROVISIONS, IF ADOPTED, COULD HELP PREVENT SIMILAR CRISES IN MILWAUKEE AND OTHER CITIES IN WISCONSIN.

MANY PEOPLE HAVE VIEWED THE PROBLEM AS ONE LIMITED TO RURAL AREAS AND A SITUATION WHICH HAS NO DIRECT EFFECT ON CITIES AND THEIR RESIDENTS.

THAT WAS BEFORE MILWAUKEE'S WATER CRISIS.

MILWAUKEEANS LEARNED FIRSTHAND ALONG WITH THE REST OF THE COUNTRY THAT WE CANNOT ALWAYS ADEQUATELY PROTECT PEOPLE FROM ENVIRONMENTAL HAZARDS CAUSED BY RUNOFF FROM FARM FIELDS, BARN YARDS, COUNTRY ROADS AND CITY STREETS, AND CONSTRUCTION SITES. MANY OF THEM FOUND OUT THROUGH A PAINFUL ILLNESS THAT POLLUTION IN OUR WATERWAYS IS MORE THAN JUST AN ABSTRACTION.

IN THAT WAY, NONPOINT SOURCE POLLUTION HAS LITERALLY BECOME A GUT-LEVEL ENVIRONMENTAL ISSUE IN WISCONSIN.

ALTHOUGH THE EXACT CAUSE OF THE OUTBREAK MAY NEVER BE KNOWN - AFTER ALL, ONE OF THE PROBLEMS WITH NONPOINT SOURCE POLLUTION IS THAT YOU CAN'T PINPOINT THE SOURCE - IT IS DIFFICULT TO DENY THAT RUNOFF OF ANIMAL WASTE INTO THE MILWAUKEE RIVER WATERSHED MAY HAVE BEEN A CULPRIT IN MILWAUKEE'S WATER CRISIS.

ACCORDING TO WISCONSIN'S DEPARTMENT OF NATURAL RESOURCES, VIRTUALLY ANY ANIMAL FOUND IN A WATERSHED CAN BE CONSIDERED A POTENTIAL CARRIER OF CRYPTOSPORIDIUM. CATTLE ARE HIGHLY LIKELY HOSTS OF THE ORGANISM AND, WITH THE NUMBER OF FARMS IN THE MILWAUKEE RIVER WATERSHED, IT IS NOT DIFFICULT TO CONCEIVE OF A SITUATION WHERE THE ORGANISM WAS INTRODUCED TO LAKE MICHIGAN - SOURCE OF MILWAUKEE'S DRINKING WATER - THROUGH THE RIVERS AND STREAMS THAT EMPTY INTO THE LAKE.

BUT CRYPTOSPORIDIUM IS ONLY THE MOST OBVIOUS THREAT. SOIL EROSION, ROAD SALT, FERTILIZER, PESTICIDES AND OTHER CONTAMINANTS ARE INTRODUCED INTO OUR WATERWAYS.

ONLY THROUGH PREVENTION, DISINFECTION AND FILTRATION CAN WE PREVENT THESE AGENTS FROM REACHING THE TAPS OF OUR HOMES AND BUSINESSES. BUT I WOULD ARGUE THAT THE MOST IMPORTANT FACTOR IN THIS EQUATION IS PREVENTION.

IF WE KEEP POLLUTANTS OUT OF SURFACE WATER, NOT ONLY WILL WE HAVE HEALTHIER LAKES AND STREAMS, NOT ONLY WILL WE HAVE HEALTHIER LAKES AND STREAMS, BUT FAILURE TO PROPERLY FILTER AND DISINFECT OUR DRINKING WATER WILL NOT RESULT IN SUCH DISASTROUS CONSEQUENCES AS HAPPENED IN MILWAUKEE.

ANOTHER WISCONSIN NATIVE, THE PRE-EMINENT NATURALIST ALDO LEOPOLD, CHALLENGED HUMANITY TO DEVELOP A "LAND ETHIC." LEOPOLD SAID THAT WE ABUSE LAND BECAUSE WE REGARD IT AS A COMMODITY THAT BELONGS TO US, RATHER THAN AS A COMMUNITY TO WHICH WE BELONG.

MOST FARMERS AND OTHER LAND OWNERS ARE EXCELLENT STEWARDS OF THE LAND. BUT TO QUOTE LEOPOLD, "WHEN WE SEE LAND AS A COMMUNITY TO WHICH WE BELONG, WE MAY BEGIN TO USE IT WITH LOVE AND RESPECT." MOST LAND OWNERS RESPECT THE LAND. BUT IT IS CLEAR WE MUST NOT ALLOW THE BAD ACTORS TO CONTINUE TO POLLUTE.

WE ARE BEGINNING TO SEE THE HUMAN TOLL OF OUR FAILURE TO BE GOOD STEWARDS OF THE LAND. OUR NEED TO PROTECT OUR WATERSHEDS IS NO LONGER THE RESULT OF SOME ROMANTIC ENVIRONMENTAL AESTHETIC. RATHER, IT IS NOW A MATTER OF PRESERVING HUMAN HEALTH.

WITH GOV. THOMPSON'S VETO OF KEY PORTIONS OF WISCONSIN'S NONPOINT BILL, THE NEED FOR A FEDERAL LAW THAT REDUCES THE FLOW OF NONPOINT SOURCE POLLUTION HAS NEVER BEEN MORE EVIDENT. OUR NATION SHOULD ACCEPT ALSO LEOPOLD'S CHALLENGE TO BE BETTER STEWARDS OF THE LAND. CONGRESS MUST SEE TO IT THAT OUR STATES DO NO LESS.

IT MAKES NO SENSE TO INVEST BILLIONS OF DOLLARS TO CLEAN OUR LAKES AND STREAMS WHEN SEVERE DEGRADATION OCCURS JUST UPSTREAM.

THIS IS WHY THIS LAST FRONTIER MUST BE CONQUERED.

WITHOUT FEDERAL LEGISLATION, OTHER CITIES MAY FIND THEMSELVES IN THE SAME SITUATION AS MILWAUKEE. WE CANNOT AFFORD THAT RISK.

THOSE WHO QUESTION WHETHER SUCH FEDERAL LEGISLATION IS REQUIRED NEED SIMPLY TO ASK ANY OF THE THOUSANDS OF RESIDENTS IN MILWAUKEE COUNTY WHO WERE STRICKEN DURING THE WATER CRISIS. THEY WOULD BE HAPPY TO DISPEL THEIR DOUBTS.

I WOULD BE PLEASED TO ANSWER ANY QUESTIONS YOU HAVE ABOUT THIS ISSUE. THANK YOU AGAIN FOR THIS OPPORTUNITY. I HOPE MY TESTIMONY HAS BEEN HELPFUL IN DETERMINING THE NEED FOR FEDERAL NONPOINT SOURCE POLLUTION GUIDELINES.

Milwaukee Journal  
6/1/52

## A runoff of responsibility <sup>nd</sup> <sub>5/6/52</sub>

**E**VERY NOW and then, Tommy Thompson forgets that he is governor of Wisconsin and behaves as if he were governor of Elroy. He did just that the other day in gutting a pioneering bill to curb runoff pollution. Shame on Thompson. His parochialism stands to hurt taxpayers, the environment and his own reputation as an innovator.

With his trusty veto pen, the governor quietly excised key provisions of a bill that provided new carrots and sticks for stemming non-point pollution — runoff from farms, construction sites and city streets. Such runoff chokes fish-spawning beds, spurs weed and algae growth and contaminates ground water, causing billions of dollars in damage each year.

With just about everyone agreed on the need for cleanup, state Sen. Charles Chvala (D-Madison) spent two years working with a fragile coalition of farmers, environmentalists, builders and others on language that all could live with. The result was hailed as a national model.

Enter Thompson. His shortsighted vetoes knocked out the legislation's teeth, including a provision permitting the state to crack down on landowners who persistently refuse to practice soil conservation in the most polluted watersheds; \$71 million in state bonding authority, one of two principal funding mechanisms for cleanup; and incentives for the voluntary fencing of stream banks, to stem pollution from cows.

The governor also nixed county controls over erosion from one- and two-family homes and Department of Natural Resources oversight of commercial building sites; both jobs now fall to the Department of Industry, Labor and Human Relations, which has never shown much zeal for erosion control and now, thanks to Thompson, lacks enough funds to train inspectors.

What could have prompted such ill-considered moves? In his veto message, the governor said landowners were already committed to water quality. Some are, but he ignored the bad actors who have degraded about 40% of the state's rivers and streams and 75% of its lakes.

The catalyst for these vetoes seems to have been an alliance of uncooperative farmers and a few GOP lawmakers who willfully distorted the stream-bank fencing provision — it was *never* mandatory, though arguably it should have been — and played to Thompson's rural roots.

What now? A veto override is unlikely, but it ought to be tried. Meantime, counties and cities aren't precluded from enacting their own erosion controls for subdivisions and commercial sites; some already have done so, and more ought to, pronto. And the DNR should exercise what remaining power it has to stem runoff.

**T**HIS STUFF is killing our waterways and robbing from taxpayers' pocketbooks. May a future governor be enlightened enough to stop protecting sacred cows.



Gov. TOMMY THOMPSON

OUR OPINION

# Water: A non-point issue

Let's make one thing perfectly clear: The cryptosporidium protozoa that sent thousands of Milwaukeeans running for the Pepto-Bismol in the past week did not originate at Gov. Tommy Thompson's desk.

But the horrid epidemic of intestinal flu that has practically shut down Wisconsin's largest city is a perfect example of the very real dangers of non-point pollution. And while the non-point pollution bill that sailed through the Legislature last year only to be gutted by Thompson's veto pen probably could not have forestalled this spring's cryptosporidium outbreak, it might have prevented such plagues in the future.

It has been about two weeks since Milwaukee-area doctors and pharmacists first noticed that a disproportionate number of city residents were suffering the same nasty symptoms common to tourists in undeveloped foreign countries. It has been a week since public health officials identified the culprit as cryptosporidium, a microscopic parasite common to farm animals, and ordered city residents to boil all drinking water.

Officials theorize that animal dung washed into the Milwaukee River was carried in a "pollution plume" out into Lake Michigan, from whence Milwaukee draws its drinking water. Combine heavy spring rains with some type of failure in Milwaukee's water purification system and presto! You've got the Beer City two-step. Meanwhile, thousands of city dwellers who never gave the slightest thought to the problems of rural run-off are now arguing the issue over glasses of chilled Perrier.

Rural run-off is non-point pollution. So are the leaves and grass clippings and lawn fertilizer that run into Madison lakes and turn them into algae chowder by the Fourth of July. So is the dirt that washes off construction sites. Altogether, two-thirds of

all water pollution in Wisconsin is non-point pollution — that is, pollution that cannot be traced directly to a smoke stack or open sewage pipe.

Any number of steps can be taken to reduce the amount of rural run-off polluting the state's surface waters, says state Sen. Charles Chvala, D-Madison, author of last year's landmark non-point bill. That bill, which was supported by a broad coalition of farmers, construction industry officials, environmentalists and lawmakers from both parties, tried to encourage voluntary cooperation by promoting low-cost techniques like pasture rotation and conservation tillage methods. But the bill also contained teeth that would have allowed the Department of Natural Resources to force compliance from farmers who otherwise refuse to recognize the error of their ways — teeth that Thompson pulled.

Noting that several of the state's 130 worst watershed areas are located in the Milwaukee River basin, Chvala vowed this week to reintroduce those portions of the bill that Thompson vetoed last year. If Thompson needs an abject lesson in why he should support such a move, he should head east on I-94. There are a few thousand people at the end of the road who would be happy to explain it to him.

And lest Madison water customers become too complacent because our water is drawn from deep wells rather than surface water, remember that this city is surrounded by several hundred farms whose wells are polluted with pesticides and herbicides that have leached through the soil into the ground water. The saga of Milwaukee's water woes must teach us all that clean water is something none of us can take for granted.

## EDITORIALS

Janesville Gazette  
11/14/91

## Non-point pollution needs state attention

Over the past two decades, Wisconsin has made tremendous strides in fighting water pollution.

One estimate says industries and local government have managed to reduce pollutants, which starve water-borne plants and animals of essential oxygen, by 90 percent. Wisconsin was the first state to comply with federal water-quality standards. This state has been honored across the nation for its achievements.

This type of pollution, which typically comes out of the end of a pipe or some other clearly identifiable place, is called "point source pollution." The other key type of water pollution, non-point, washes off of farmland or roads and eventually into streams and rivers. This state's track record in curbing non-point pollution hasn't been as good.

A bill that just passed the Senate, however, makes a commendable yet realistic effort to improve. The bill faces Assembly action early next year. It should be passed.

The plan introduced by Sen. Charles Chvala, D-Madison, would:

- Direct the state Department of Natural Resources to begin work by 2000 in 130 watersheds around the state where pollution is worst. The state would likely identify the worst problem areas and offer landowners who volunteer to participate in cleanup efforts up to 70 percent cost sharing.
- Allow the DNR to require "bad actors" to enroll in the program after a sign-up and grace period. As a penalty, however, these participants would not be eligible for major grants or loan subsidies.
- Establish uniform, statewide controls on runoff from construction sites. Counties also would be required to adopt ordinances by July 1, 1993, that would keep farm animals out of streams and set new restrictions on drainage districts. The state Department of Agriculture, Trade and Consumer Protection would develop a model ordinance that local governments could adopt to encourage farmers to keep the state's 5 million farm animals out of waterways.

Funding for these efforts would come largely from a \$7.50 title transfer fee on used cars, which often leak oil and other fluids and have poor emission controls. That can result in toxic chemicals getting into the air and eventually finding their way into water. It's estimated the fee will raise \$10 million a year.

Why is it important for Wisconsin to get serious about non-point pollution?

For starters, clean water is key to keeping this state an attractive place to live and to visit. Many Wisconsinites take every opportunity they can to go fishing. Many visitors make fishing a key component of their weekend trips or vacations in the state.

If pollution chokes our fish population, it will have a tangible impact on quality of life and tourism income.

Pollution is already starting to take its toll. The Nature Conservancy recently reported that fish and other aquatic animals throughout North America are disappearing at a much faster rate than land animals.

"The loss of these species is a warning to us," Chvala said. "These species are our 'aquatic canary in the mine' - a warning to humans that the ecosystem we need to live is threatened."

Chvala recently called this the most important piece of environmental legislation the Legislature would consider this year.

He's right. This bill is that important to the long-term health of Wisconsin's environment.

With the Senate's approval, the bill is halfway there.



Chvala

## Let the lessons be clear as water

**M**ILWAUKEE'S water crisis may be over, but the malady lingers on. And we don't mean just the Dash-to-the-Bathroom Blues. Until city and rural folks alike get serious about keeping junk out of everyone's drinking-water sources, the threat of a repeat will remain. Maybe Milwaukee can help point the way to better prevention strategies nationwide.

The culprit here was Cryptosporidium, a tiny parasite found in animal wastes. How it got into the water supply is still a mystery. But at least one suspected culprit is upstream farmland runoff. Manure flushed into the Milwaukee River can eventually make its way into Lake Michigan, the source of the Milwaukee area's drinking water. A temporary change in purification techniques at the Howard Ave. treatment plant might have made it easier for the parasite to escape filtration.

How to prevent a recurrence? All levels of government, along with individual citizens, have roles to play. When the federal Clean Water Act comes up for reauthorization later this year, Milwaukee's crisis should impel Congress to improve safeguards for drinking water nationwide.

The Wisconsin Legislature, meanwhile, must crack down hard on landowners who fail to control runoff, and Gov. Tommy Thompson dare not stand in the way again. Whatever the ultimate cause of Milwaukee's crisis, his veto of tough enforcement provisions in

an erosion-control measure last year was indefensible.

Mayor John Norquist is on the right track in calling for stronger local standards for drinking-water purity and regular tests for Cryptosporidium. If water that meets state and federal regulations is making people sick, the rules clearly are inadequate.

The city also needs to explore moving the pipe that

draws water from the lake. Although that would be expensive — perhaps \$20 million — such an investment might help put a safer distance between pollution discharges and the water withdrawn for drinking. Federal help could ease the cost burden.

**Until city and rural folks alike get serious about keeping junk out of everyone's drinking-water sources, the threat of a repeat will remain.**

As Norquist himself acknowledges, the water utility must take customer complaints more seriously than it did when this crisis was in the making. There's also a need for better communication between local health officials and advocates for AIDS patients, who, unbeknown to the city, were apparently some of the first to suffer effects of the contamination.

Finally, everyone needs to be more respectful of the vast reservoir at Milwaukee's doorstep. Everything dumped onto lawns and streets — fertilizers, pesticides, pet droppings, oil and other chemicals — has the potential to wind up in Lake Michigan, the source of the community's drinking water. There's no guarantee that even the most sophisticated purification techniques will remove every last poison and pathogen. Better to keep them out of the lake in the first place.

# Let Milwaukee water ills be a lesson



"Water, everywhere and not a drop to drink." Things were just about that bad during the recent water contamination episode in Milwaukee.

Too often it takes a dramatic incident such as this one to focus public attention on the fact that even an abundant resource like water is vulnerable.

Whether caused by runoff of animal wastes from barns and pastures, or sewer overflow, somehow a dangerous parasite got past the water purification system and into the drinking water, causing many people to suffer a very unpleasant illness.

Polluted runoff (cattle waste, farm pesticide, fertilizer, mine and construction site waste) is called non-point pollution. This pollution often runs into streams, lakes and even seeps into groundwater.

Within the last few years, non-point pollution has been recognized as a serious threat to drinking water, and efforts are being made to correct it.

Some chemicals have already been banned from farm use. And an excellent bill introduced by Sen. Charles Chvala, D-Madison, was passed by the Legislature



More development scattered around the countryside brings to mind the worst nightmares of sprawl: The land lost to new housing sites and roadways leading to them would diminish still further our open spaces, wild lands and wetlands that make Wisconsin a wonderful place to live and a tourists' paradise.

• • •

A serious accident such as happened in Milwaukee should act as a warning to us to act with all possible speed to plug the loopholes in our water protection system, to increase safeguards where needed, and certainly not to weaken in any way, shape or form the protective rules already in place.

Sen. Chvala will reintroduce his runoff control bill.

The Legislature should pass it and the governor should sign it. DILHR should strengthen the septic system code, thereby living up to its duty to protect the public health.

We should accept no less from our public officials.

*Frankie Locke is active in the local Audubon Society and writes an occasional column on environmental issues for The Capital Times.*

septic systems to meet code of fluent standards. Experts in the field are unable to predict the long-range effects of the current rates of pollution from septic on groundwater quality.

Nevertheless the Department of Industry, Labor and Human Relations is actually planning to weaken the already inadequate rules controlling septic systems. This action would not only increase rates of pollution, but would open up 20 to 40 percent more land in the state to development and subsequent groundwater contamination.

Another source of groundwater pollution comes from septic systems used in rural, unsewered areas. While less obvious, this source of pollution is increasing, and could become much worse.

There is documented evidence of the deteriorating quality of Wisconsin's groundwater, and of widespread failure of existing

last year.

That bill would have gone a long way toward protecting our water. Unfortunately it was vetoed by Gov. Thompson when he vetoed most of the runoff control and enforcement provisions.

2053

**STATEMENT**  
**of**  
**CH2M HILL, INC.**

**on the**  
**Reauthorization of the Clean Water Act**

**for the**  
**Subcommittee on Water Resources and Environment**  
**Committee on Public Works and Transportation**  
**U.S. House of Representatives**

**June 2, 1993**

## **CLEAN WATER ACT REAUTHORIZATION**

### **Summary of Testimony of CH2M HILL, INC.**

Thank you for this opportunity to present testimony on the reauthorization of the Clean Water Act (CWA). CH2M HILL, INC., one in the family of companies of CH2M HILL COMPANIES, LTD., provides planning, engineering design, operation, and construction management services to help clients apply technology, safeguard the environment, and develop infrastructure. Our professional staff includes specialists in environmental engineering, waste management, water management, transportation, energy, industrial facilities, and a broad spectrum of infrastructure systems. Meeting water and wastewater challenges is a cornerstone of our practice.

From our experience working to achieve the objectives of the CWA, we believe that reauthorization of the Act should be one of the highest priorities of this Congress. Expedient reauthorization will allow the regulated community to move forward in addressing water quality problems. Although we have recommendations about specific provisions of the CWA, our fundamental assertion is that the CWA must be reauthorized soon so that efforts to protect the integrity of our Nation's water can proceed.

Funding is a critical issue. We endorse proposals to increase funding levels for clean water programs to \$5 to 6 billion a year. In addition, we recommend that State Revolving Funds (SRF) be made available for a range of projects, to be expended wherever they produce the most benefit in terms of water quality improvement.

On the basis of our experience in helping the public meet CWA goals, we offer the following recommendations.

#### **1. Endorse a Comprehensive Watershed Management Approach.**

- The CWA should endorse the watershed management approach being developed and recommended by agencies and groups such as the U.S. Environmental Protection Agency, the Association of Metropolitan Sewerage Agencies, and the National Research Council.
- Antibalancing requirements should be eliminated in favor of water-quality-based permit requirements that take full advantage of a watershed management approach.
- The watershed management approach should be extended to interconnected water bodies, including the surface water and groundwater interface.

## **2. Use Wetlands for Enhancing Water Quality.**

- This issue need not be a barrier to CWA reauthorization.
- The CWA should be amended to specifically encourage the construction of wetlands for water treatment and allow the development of natural wetlands for wastewater recycling.
- The CWA should clarify the potential to use constructed wetlands for mitigation of 404 wetland alterations.

## **3. Prioritize Environmental Actions on the Basis of Risk.**

- The CWA should be modified to prescribe an integrated approach to watershed management, such as that presented by the National Research Council, in which prioritization of risk is implicit.
- Risks and uncertainties should be recognized and incorporated into the decision-making process if the objective is to find the optimal and most cost-effective combination of environmental actions.

## **4. Set Site-Specific and Condition-Specific Standards for Water Quality.**

- Site-specific and condition-specific water quality standards should be permitted and encouraged by the CWA.
- In cases where effluent in an ephemeral stream has created a habitat, the CWA should require regulatory agencies to develop site-specific and use-attainability standards.
- The CWA should not mandate upgraded treatment capabilities nor the development of standards based solely on chemical parameters.
- The CWA should not be interpreted as requiring implementation of end-of-pipe standards if the discharge "passes" water body assessments and whole-effluent toxicity tests but fails chemical-specific tests.

## **5. Use Research and Development to Find Cost-Effective Means for Improving Water Quality.**

- Additional research and development of water treatment techniques and technologies should be funded through the CWA and the appropriations process.

- Federal grants and waivers that permit some improvement in conditions without requiring prohibitively expensive treatment to meet all standards should be implemented for rural communities.

## **6. Resolve Conflicts Between the CWA and the Resource Conservation and Recovery Act (RCRA).**

- Congress should permanently resolve the jurisdictional gap between the CWA and RCRA by amending the CWA so that indirect dischargers of hazardous wastewater are explicitly subject to management and control solely under the CWA.
- Congress should fashion a reasonable solution to the conflict between RCRA land disposal restrictions and the provisions of the CWA by recognizing the primacy of the CWA regulations.

## **7. Eliminate Impediments to Cleanup of Contaminated Sites.**

- Congress should consider at least two statutory initiatives during CWA reauthorization to facilitate the cleanup of contaminated sites currently regulated under RCRA and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA):
  - Authorize the EPA to develop regulations and effluent limits under Sections 307(b) and 402 that will allow expedited permitting of sites undergoing remediation; and
  - Encourage states and municipalities to incorporate provisions into their publicly owned treatment works (POTW) programs to facilitate permitting of treated wastewater from remediation sites.

## **Conclusion**

We at CH2M HILL, INC., and many others who support the objectives of the Clean Water Act, believe that the Act is generally working well to achieve defined and important goals. We urge Congress to examine the issues that we have raised and our recommendations, and to proceed reasonably and expeditiously to reauthorize this important statute with appropriate improvements. Thank you for this opportunity to provide our comments.

**CLEAN WATER ACT REAUTHORIZATION****Testimony of CH2M HILL, INC.****Introduction**

Thank you for this opportunity to present testimony on the reauthorization of the Clean Water Act (CWA). CH2M HILL, INC., one in the family of companies of CH2M HILL COMPANIES, LTD., provides planning, engineering design, operation, and construction management services to help clients apply technology, safeguard the environment, and develop infrastructure. Our professional staff includes specialists in environmental engineering, waste management, water management, transportation, energy, industrial facilities, and a broad spectrum of infrastructure systems.

The CH2M part of the firm's name is derived from the names of the founders of the company—Holly Cornell, James Howland, T. Burke Hayes, and Fred Merryfield. CH2M was established in 1946, in Corvallis, Oregon. In 1971, CH2M merged with Clair A. Hill & Associates, a surveying, photogrammetry, water resources, and structural engineering firm based in California. CH2M HILL now comprises more than 5,000 men and women and serves clients from more than 70 locations in 27 states and on 5 continents. The company has received national recognition for engineering excellence and innovative designs.

Since the earliest days of the firm, CH2M HILL has met the needs of municipalities and industries for water and wastewater treatment and water resources management. Our services on more than 5,000 projects in this area have ranged from preliminary studies and design for conventional treatment plants to the intricacies of the world's most advanced wastewater treatment systems and regional water management programs. CH2M HILL's involvement in high-technology wastewater treatment began in the 1960s with the development of the first advanced wastewater treatment facility in North America—the Lake Tahoe Advanced Wastewater Treatment Plant in California. Subsequent projects, such as the Upper Occoquan Water Reclamation Plant in Virginia, have afforded the opportunity for continued pioneering and advancements in wastewater treatment. Recently, CH2M HILL has made significant contributions on hazardous waste and transportation projects. However, meeting water and wastewater challenges remains a cornerstone of our practice.

### **General Observations on the Clean Water Act**

From our experience working to achieve the objectives of the CWA, we believe that reauthorization of the Act should be one of the highest priorities of this Congress. Expedient reauthorization will allow the regulated community to move forward in addressing water quality problems. Uncertainty about potential statutory and regulatory changes has caused some communities and companies to postpone needed improvements in their water quality programs and systems. Although we have recommendations about specific provisions in the CWA, our fundamental assertion is that the CWA **must** be

reauthorized soon so that efforts to protect the integrity of our Nation's water can proceed.

Funding is a critical issue. Members of environmental groups, water quality practitioners, and the regulated community present a united front in their support of increased Federal funding to enable states and localities to meet water quality needs. The U.S. Environmental Protection Agency (EPA), in its *1988 Needs Survey*, concluded that compliance with the CWA would require spending \$83.5 billion for wastewater treatment during the next 15 years. The U.S. General Accounting Office reported in 1991 that states believed that the true costs were much higher because the survey included only projects that were already designed and planned. Also, it omitted projects addressing nonpoint-source pollution control or protection of estuaries. Calculations based on the EPA's *1990 Needs Survey* put a price tag of \$110 billion on total unmet needs.

The Association of Metropolitan Sewerage Agencies (AMSA), in its report, *The Cost of Clean*, verifies the significance of the added cost to rate payers. The American Public Works Association (APWA) recently commented that municipalities will be required to spend in the range of \$1 billion to \$542 billion annually to implement best management practices in response to the National Pollutant Discharge Elimination System (NPDES) stormwater program. Many water quality professionals with whom we have worked believe that these figures are just starting points, and that doubling or tripling those numbers may yield a more realistic assessment of the cost.

By all accounting, it is clear that current Federal spending is too low. EPA's FY 1994 budget request for the CWA's State Revolving Fund (SRF) program is only \$1.2 billion, down from \$2.55 billion in FY 1993. If the Administration's budget request is honored, the Section 319 nonpoint-source pollution grants program, an area where many believe significant gains can be made in improving water quality across the board, would receive \$80 million in FY 1994. Although that is a hefty increase from the \$50 million appropriated for FY 1993, it still falls far short of the estimated funding required to address the problem. We endorse proposals to dramatically increase funding levels for clean water programs to \$5 to 6 billion a year. Also, although SRF funds have historically targeted point-source programs, we recommend that funds be made available for a range of projects, to be expended wherever they produce the most benefit in terms of water quality improvement. In addition to point sources, SRF-funded programs should address combined-sewer overflow, storm water, and nonpoint sources.

### **Specific Issues and Recommendations**

On the basis of our experience in helping the public meet CWA goals, we believe that there are several specific issues that Congress should address during reauthorization of the Act. The remaining sections of this testimony provide specific comments on these issues:

- Watershed management
- Use of wetlands for enhancing water quality
- Risk-based prioritization of environmental actions

- Setting of site-specific and condition-specific standards
- Research and development for cost-effective means of improving water quality
- Resolution of conflicts with the Resource Conservation and Recovery Act
- Impediments to cleanup of contaminated sites.

## **Watershed Management**

### *Summary of the Issue*

Most water quality professionals now recognize that few significant gains in meeting desired water quality standards can be achieved by focusing only on point-source controls. The full range of control options should be considered. This is particularly true for advanced levels of nutrient control and for removal of metals and organic compounds, where a less-expensive reduction in pollutant loading from a remote source would reduce the Total Maximum Daily Loading (TMDL) to a receiving water at a lower regional cost than a traditional end-of-pipe solution.

An integrated approach to watershed planning and management leads to identification and implementation of cost-effective solutions. Watershed planning integrates land-use management, an understanding of fate and transport of pollutants, and setting of water quality standards for receiving waters on a watershed basis. When watershed planning is combined with the regional economics of pollutant management, it results in a lower overall cost for achieving environmental goals. Watershed planning and management, by

broadening the focus beyond expensive end-of-pipe controls, also provide local governments and industries with needed flexibility in meeting receiving water quality goals.

The National Research Council, in its report *Management of Urban Wastewater in Coastal Areas*, presents an integrated approach to watershed management.

### ***Applications of Watershed Planning and Management***

The case studies presented here demonstrate that watershed management and planning can provide cost-effective solutions to water quality problems.

**A Cooperative Approach in California.** California wastewater agencies working through Tri-TAC and the California Association of Sanitation Agencies (CASA) have developed a coordinated watershed management approach. This is largely the result of recent water quality evaluations and permitting studies conducted in San Francisco Bay and in the Sacramento River Watershed. Most of the agencies involved are also implementing extensive new waste minimization and expanded pretreatment programs for upstream discharges. Where feasible, some discharges are being reduced through water reclamation programs. Yet despite these measures, many or most of the publicly owned treatment works (POTWs) are finding that they will be unable to meet current water quality standards for several metals. Even if industrial discharges were eliminated completely, these standards could not be met. Additional forms of treatment, such as reverse osmosis, would provide little benefit and would often be counterproductive because they would affect other media and produce additional waste streams, such as

brine and sludge. Significant overall improvements can only be achieved by considering all pollutant sources, including urban and agricultural runoff and mine drainage.

**The Example of the City of Santa Rosa.** In another area of California, the City of Santa Rosa has also demonstrated the importance of watershed management. For most of the year, Santa Rosa reclaims and recycles its treated wastewater through agricultural and urban irrigation. Through Santa Rosa's planning processes, it has become apparent that effective management of non-point source pollution (primarily from agriculture) is the most significant way to meet water quality criteria. Even complete removal of nutrients from the POTW discharge would not provide a measurable improvement in water quality, and the receiving stream would remain on the non-attainment list. The City is currently investigating several unconventional options for wastewater management projects, including treatment of animal waste and use of wetlands. The City is also conducting a CWA Sec. 205(j) basinwide assessment to determine the combined effects of urban stormwater, agricultural runoff, and POTW discharges on water quality.

**Federal Paper and Water Quality Modeling.** The Federal Paper Board Company, on North Carolina's Cape Fear River, has the most stringent organic matter requirements for its effluent of any pulp and paper mill in the Southeast. When Federal Paper found it impossible to fully comply with NPDES permit requirements at one of its mills, it negotiated a consent order with the state. In part, the consent order allowed Federal Paper to initiate investigations, conduct studies, and develop a revised water quality model to use in renegotiating permit limits. Federal Paper's studies proved that using

conventional technologies for processing, wastewater treatment, and effluent disposal would not achieve the permit limits. Further, biological investigations suggested that wastewater discharges were not impairing the river's aquatic habitat. The modeling demonstrated that seasonal fluctuations in the river flow were a key variable in determining appropriate waste-load allocations. Federal Paper's knowledge of the river's sensitivity to seasonal organic matter loadings enabled the company to develop a plan to store and seasonally release effluent to fully protect the environment without cutting production or closing the plant.

### *Specific Recommendations to Facilitate Watershed Planning and Management*

Although these good results can be achieved under the present CWA, several steps could be taken to facilitate wider use of cost-effective watershed management. Our first recommendation is that the CWA endorse the watershed management approach being developed and recommended by agencies and groups such as the EPA, AMSA, and the National Research Council in its report on coastal wastewater management. Water users should be given the opportunity to come together voluntarily to negotiate, rather than having to deal with prescriptive solutions that increasingly are inadequate or extremely expensive for improving water quality near the point of discharge. Federal and state governments should serve as facilitators to help interested parties get together to establish priorities and set standards for water quality improvements.

Second, we recommend that antibacksliding requirements be eliminated in favor of water-quality-based permit requirements that take full advantage of a watershed management approach. Antibacksliding is a technology-driven requirement to prevent industries and municipalities from removing treatment technologies that have already been implemented. In some cases, these requirements mandate systems that are no longer cost-effective.

Our final recommendation is that the watershed management approach be extended to interconnected water bodies, including the surface water and groundwater interface where, for example, pollution control could alleviate the effect of inflow from streams that are nutrient limited. This interconnection is in evidence in central Nebraska, where high nitrogen loads from excess fertilizer application are affecting water quality in the Platte River near the point of discharge from Grand Island's treatment plant. Greater use of CWA Sec. 319(i) authority, under which EPA can provide grants to States to protect groundwater from nonpoint-source pollution, would be helpful here. Significant clarification is needed in the CWA if the advantages of regional approaches to water quality management are to be realized.

## **Use of Wetlands for Enhancing Water Quality**

### ***Summary of the Issue***

The debate over reauthorizing the CWA has repeatedly run into one of the most controversial environmental questions of our time: How do we protect, restore, or replace

valuable wetlands while fostering vital economic growth and development? A regrettable feature of the debate over this issue is that some fundamental engineering and scientific facts are being obscured. The facts include the following:

- Degraded wetlands **can** be restored
- Existing wetlands **can** be protected and enhanced
- Viable, valuable wetlands **can** be constructed.

Constructed wetlands are being used throughout the world for water quality treatment. Engineered natural wetlands are also being used to provide water quality treatment in many areas of the U.S. Because of their existing biological characteristics and land forms, engineered natural wetlands can sometimes provide effluent management at a lower cost than constructed wetlands. Also, in some cases, the environmental value of natural wetlands may be restored or enhanced by their use for wastewater treatment.

When carefully engineered and operated, constructed wetlands can provide consistent, cost-effective, water quality treatment while providing important ancillary benefits to society. Wetlands can be used singly or in combination with other wastewater treatment technologies to treat a broad variety of effluents including municipal, industrial, agricultural, and non-point runoff. The quality of the final discharge from these wetlands can be as consistent as that from conventional treatment systems, yet capital and energy expenditures are frequently much lower. In addition, society benefits twice, from cost-

effective treatment and from an increase in greenspace, wildlife habitat, and public recreation potential.

### *Applications of Wetland Technology*

There have been several notable successes in applying wetland treatment technologies. These include: (1) Carolina Bays, South Carolina; (2) Incline Village, Nevada; (3) Santa Rosa, California; (4) Fort Deposit Alabama; and (5) West Jackson County, Mississippi.

**Water Quality Improvements in South Carolina.** One example of a wetland system that has been successful in improving water quality is the Carolina Bays Project in South Carolina, which won the American Consulting Engineers Council's highest honor, the Grand Conceptor Award. The project incorporates about 700 acres of natural wetlands into a low-energy, municipal wastewater treatment system. The wetlands provide consistent treatment as well as habitat for rare and endangered species such as the Venus fly-trap and the black bear. The project received considerable support and interest from EPA Region IV in Atlanta. Similar natural wetland projects are ongoing in Conway and Hilton Head, South Carolina and in Pasco County, Florida.

**A Pioneer Project in Incline Village.** The largest and oldest constructed wetland treatment project is in Incline Village, Nevada, where 385 acres of marshes were constructed in 1984. Building on an existing, mineralized, warm-water wetland near Minden, Nevada, the Incline Village General Improvement District developed a system

that renovates wastewater and benefits wildlife using natural processes. A 20-mile pipeline carries treated effluent from the treatment plant to the Wetlands Enhancement Facility. Constructed wetland cells, berms, a flood dike, and a distribution ditch are the main components of the system. Eight constructed wetland cells are the primary disposal area for treated effluent. There is no surface discharge from the wetland disposal area because of evaporative water losses. Each wetland cell has a deep center channel that discourages emergent vegetation growth and provides a landing area for waterfowl. Islands within the channels serve as nesting sites.

**An Experiment in Santa Rosa.** Santa Rosa, California, is the site of a 10-acre demonstration wetland, currently in its fifth year of operation, which provides final polishing of highly renovated municipal wastewater and rural runoff water. At Santa Rosa, constructed wetlands are only one component of a watershed protection program that integrates wastewater treatment and reuse with nonpoint source pollution control and environmental enhancement.

**A Winner in Fort Deposit.** Fort Deposit, Alabama, is a small rural town that could not comply with increasingly stringent water-quality-based effluent limits. As part of the CWA Sec. 201 Facilities Planning process, constructed wetlands were recommended to the town to meet these new permit limitations. A 15-acre wetland was constructed in 1990 and has provided consistent treatment since that time. This project won the Alabama Wildlife Federation's Governor's Conservation Achievement Award in 1991,

the Alabama Engineering Excellence Award in 1991, and the American Consulting Engineers Council Grand Award in 1992. These accolades are indicative of the overwhelming approval of engineers and the public for this type of project.

**Improving Wetlands in West Jackson County.** The West Jackson County, Mississippi, constructed wetland treatment system includes 56 acres of man-made marshes. It is part of an overall land treatment system covering 415 acres that uses facultative lagoon treatment followed by land treatment and disposal during dry periods, and uses constructed wetlands during wet periods. A large part of this project is built within the boundaries of a National Wildlife Refuge that protects an endangered subspecies of the sandhill crane. The presence of natural wetlands on the site of the proposed constructed wetlands created a problem during the design and permitting process. These natural wetlands were wet pine woods that had recently been included as waters of the U.S. by the adoption of the 1989 Wetlands Delineation manual. A Section 404 wetlands permit allowed replacement of this wet pine forest by the constructed wetland treatment system, which was considered a significant environmental enhancement.

### ***Specific Recommendations for Encouraging the Use of Wetlands for Water Quality Enhancement***

The CWA should be amended to specifically encourage the construction of wetlands for water quality treatment and to allow the development of natural wetlands for wastewater recycling. This would be consistent with the general national consensus concerning

reducing the net loss of wetland habitat. Also, the CWA should clarify the potential to use constructed water quality treatment wetlands for mitigation of 404 wetland alterations.

## **Risk-Based Prioritization of Environmental Actions**

### *Summary of the Issue*

Water quality standards are becoming increasingly stringent. These standards are, in many cases, based on inferred toxicological and public health risks determined by laboratory tests on animals and other living organisms. The cost of meeting these standards is often prohibitive when dischargers are limited to solutions involving direct impacts at the point of discharge, the "end of the pipe." Significant cost savings and desired water quality goals can both be achieved if a risk-based approach is incorporated into permitting and planning decisions.

Many factors are considered in the development of proposed environmental actions. These factors cannot always be clearly defined and are subject to variation. In using the risk-based approach, decision makers understand the effect of this variability and the need for alternative solutions. For example, changing hydrologic conditions or pollutant concentrations that could be discharged affect the potential for or risk of exceeding an established numeric effluent limit. Understanding the risks associated with alternative technical solutions can enable decision makers and regulators to determine an optimal combination of environmental actions to meet the desired goals.

### *Applications of Risk-Based Prioritization*

**Cleaning Up Boston Harbor.** Risks were effectively prioritized by the Massachusetts Water Resources Authority (MWRA) in its combined-sewer overflow (CSO) project at Boston Harbor. The overflow of untreated stormwater and sewage from CSO has been a significant source of pollution sources in Boston Harbor. In preparing its facility plan, the MWRA used the risk-based approach for defining levels of control and allowing a specific number of wet-weather discharges when designated beneficial uses are achieved. By identifying the contribution of CSO to water quality problems in the harbor, MWRA was able to identify a mix of management strategies that could most effectively control this pollutant source. A variety of technologies were proposed, ranging from best management practices to near-surface and deep-tunnel storage and treatment. The mix of CSO control strategies was developed with a cost savings to local citizens of billions of dollars. Forecasts of costs and income levels were used to determine the affordability of the recommended program. The MWRA considered the risks associated with compliance and with diverting funding from other programs. Available funds were prioritized according to the greatest environmental benefits produced.

**Exploring Alternatives in Portland.** The City of Portland, Oregon, is developing a long-term management program to reduce CSO from their combined-sewer system which serves about 70 percent of the city's population. In dry weather, sewage flows to the Columbia Boulevard Treatment Plant for treatment. In wet weather, however, sewage overflows into the Willamette River and the Columbia Slough. The city has been

working for more than two years to evaluate the sewer system, determine the frequency and duration of the overflows, estimate the effects of CSO on water quality, and find solutions. Analysis of hydrologic uncertainty was used to select the storm conditions under which the control program would be expected to operate, and the range of management strategies for achieving these goals.

As part of its evaluation, the city has considered a range of alternative solutions. The level of control specified in a draft CSO policy issued in January 1993 by the EPA was used as a benchmark to allow comparison with other levels of control, including a Stipulation and Final Order (SFO) agreed to by the city and the State of Oregon in 1991. Alternative solutions have been analyzed to identify the facilities involved, resulting improvements in water quality, and costs. By comparing the costs and benefits of potential solutions in advance, the city will be able to choose the cost-effective solution that best meets its needs and its water quality goals.

### *Specific Recommendations for Risk-Based Prioritization*

Once again, we recommend that the CWA be modified to prescribe an integrated approach to watershed management such as that presented by the National Research Council. Prioritization of risks is an inherent part of that approach.

## Setting of Site-Specific and Condition-Specific Standards

### *Summary of the Issue*

In recent guidance, the EPA has begun to recognize the need for modification in the "one effluent limit fits all" strategies of the past. Setting different effluent limits and total maximum daily loads (TMDLs) for dry weather and wet weather conditions is permitted under current EPA guidance, but resource and other constraints have prevented maximum effective use of this tool. Further, in some regions of the country, aquatic habitats have been created primarily as a result of effluent discharges. These ephemeral streams support aquatic communities that otherwise would not exist. Enforcing effluent limits designed for completely different environments makes little sense in these areas.

### *The Need for Site-Specific and Condition-Specific Standards*

In Grand Island, Nebraska, a wastewater treatment plant discharges treated effluent into an ephemeral stream, Wood River. Because of this effluent, the downstream area has developed an aquatic environment that supports a variety of species. Recently, the river was inadvertently classified as a receiving water by the state, making it subject to discharge standards. Elevated levels of nutrients (ammonia and nitrogen) were found in the stream. Two options were available for meeting discharge standards: divert the effluent flow to the Platte River, which would destroy the downstream habitat; or upgrading the plant to add nitrification/denitrification capabilities. The most cost-

effective solution at Grand Island was to upgrade the plant. This solution also benefitted the environment, so it was a win-win situation. However, had the cost of diverting the effluent been lower, the choice would have been less clear, and achieving an inappropriate water quality standard could have resulted in the loss of the aquatic environment in the ephemeral stream.

### *Specific Recommendations for Setting Site-Specific and Condition-Specific Standards*

Site-specific and condition-specific water quality standards should be permitted and encouraged by the CWA. In cases such as that at Grand Island, where effluent in an ephemeral stream has created a habitat, the CWA should require regulatory agencies to develop site-specific and use-attainability standards. The CWA should not mandate upgraded treatment capabilities nor the development of standards based solely on chemical parameters.

In addition, the CWA should not be interpreted as requiring a discharge to pass the three tests currently used to determine the need for water-quality-based limits. If the discharge passes Whole Effluent Toxicity (WET) testing and the receiving water body complies with established water quality standards, then chemical testing should be regarded as inappropriate and unnecessary.

## **Research and Development for Cost-Effective Means of Improving Water Quality**

### *Summary of the Issue*

The difficulties in meeting wastewater and drinking water needs of rural communities have been widely reported. Rural areas, to a greater degree than their urban or suburban counterparts, have a compelling need for low-cost means to improve water quality. In the absence of beneficial economies of scale, loan programs are often not a viable option for meeting these needs. Additional research and development of water treatment techniques and technologies should be funded through the CWA and the appropriations process.

### *The Alaskan Experience*

Residents of rural Alaska face many challenges in developing adequate systems for water and wastewater treatment. At least three deaths reported in the last several months are due to an hepatitis outbreak that is a direct consequence of antiquated and inadequate sanitation systems in approximately 200 Alaska communities. About 180 water and wastewater systems do not even have qualified operators on site. Many villages have no running water or flush toilets. The "honey bucket" is a way of life for far too many Native people. Hepatitis A rates in Alaska are among the highest in the nation. Two

separate epidemics of hepatitis now ravage Alaska, with more than 300 cases reported in recent months.

### ***Specific Recommendations for Research and Development***

Federal grants and waivers that permit some improvement in conditions without requiring prohibitively expensive treatment to meet all standards would be appropriate in Alaska and other communities similarly situated. One approach would be a 50 percent Federal match for projects that would bring water and wastewater up to a minimum standard, with the state funding the remaining 50 percent of construction costs and taking responsibility for operation and maintenance of the projects.

### **Resolution of Conflicts with the Resource Conservation and Recovery Act (RCRA)**

A long-standing debate between the CWA and RCRA, and the emergence of a second major conflict area in late 1992 between the CWA and RCRA, warrant special attention by Congress during the reauthorization of the CWA. These conflicts have led to numerous court challenges to EPA's administrative interpretations and have caused substantial regulatory uncertainty for most industrial dischargers.

### *The Domestic Sewage Exclusion (DSE)*

**Summary of the Issue.** The first major area of lingering inter-statutory debate is RCRA's DSE and its effect on the management of potentially hazardous wastewater originating from industrial sources that discharge into POTWs. Under the EPA's interpretation of RCRA Section 1004(27), wastewater originating from indirect dischargers that would otherwise be considered hazardous waste is excluded from RCRA Subtitle C jurisdiction as soon as dilution with domestic sewage occurs.

Studies completed by EPA in the mid-1980s under RCRA Section 3018 indicate that some 3.2 billion gallons of industrial wastewater containing hazardous constituents (potentially regulated under RCRA Subtitle C) are discharged daily to POTWs through the DSE. The EPA regulates these discharges under the pretreatment regulations promulgated pursuant to CWA Section 307(b). Conclusions presented in the studies suggested that the jurisdictional gap between RCRA and the CWA resulted (in part) in deficiencies in the Federal pretreatment standards and in weaknesses in local program implementation and enforcement. In light of EPA's findings, in July 1990 major revisions were made to strengthen the pretreatment program.

**Specific Recommendations.** We recommend that Congress permanently resolve the lingering jurisdictional gap by amending the CWA so that indirect dischargers of hazardous wastewater are explicitly subject to management and control solely under the

CWA. Solid waste, such as treatment residuals, would continue to be regulated under RCRA Subtitle C or D, as appropriate.

### *Land Disposal Restrictions and Surface Impoundment Units*

**Summary of the Issue.** The most recent statutory conflict between RCRA and the CWA resulted from a decision by the U.S. Court of Appeals in *Chemical Waste Management, Inc. et al v. EPA*.<sup>1</sup> The court applied RCRA Section 3004(d) hazardous waste land disposal restrictions (LDRs) to centralized industrial wastewater treatment facilities managing wastewaters in surface impoundment units. The effluent from those facilities has been regulated under CWA Section 307(b) or Section 402 permits, whereas surface impoundments are defined under RCRA Section 3004(k) as land disposal units. The court found that the RCRA LDR required that affected wastewaters be treated to a "minimize threat" standard before being managed in CWA surface impoundment treatment units. The long-term consequences of this decision on several thousand affected industrial wastewater treatment facilities, though still uncertain, are likely to be significant.

In emergency rulemaking signed by Administrator Browner on May 10, 1993, EPA cited RCRA's Section 1006<sup>2</sup> and asserted that sufficient rulemaking authority exists under the

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<sup>1</sup> 976 F.2d 2 (D.C. Cir. 1992)

<sup>2</sup> "The Administrator shall integrate all provisions of this Act for purposes of administration and enforcement and shall avoid duplication, to the maximum extent practicable, with the appropriate provisions of . . . the Federal Water Pollution Control

CWA to effectively implement the court's mandate in the short term. EPA indicates, however, that considerable rulemaking will be necessary in the next several years to fully comply with the Court's mandate. It is expected that a number of petitioners will file suit throughout the rulemaking process.

A key issue is RCRA's underlying mandate that hazardous wastewater be treated to best demonstrated available technology (BDAT) standards when managed in surface impoundment units. That mandate conflicts with long-established effluent-limit guidelines and treatment standards established under CWA Sections 307(b) and 402. BDAT standards have largely been established without consideration of wastewater complexity, make-up, and source. CWA effluent limits were developed for specific industrial source categories in consideration of reasonable engineering control technology. Almost without exception on a constituent-by-constituent basis, RCRA's BDAT standards are more restrictive than the CWA's effluent limits. This results in confusion and in potential misuse of resources.

**Specific Recommendations.** We recommend that Congress fashion a reasonable solution to the conflict between RCRA LDRs and the provisions of the CWA by recognizing the primacy of the CWA regulation.

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Act." 42 U.S.C. 6905(b), RCRA Sec. 1006(b).

## **Impediments to Cleanup of Contaminated Sites**

### ***Summary of the Issue***

Thousands of contaminated sites across America are presently undergoing cleanup under the Comprehensive Environmental Response, Compensation, and Liability Act (Superfund), RCRA, and state programs. At many sites, cleanup will generate millions of gallons of wastewater from activities such as remediation of contaminated groundwater and from conventional chemical or biological wastewater treatment. The treated wastewater will ultimately require some form of post-treatment management such as indirect and direct discharge to waters of the U.S., or disposal at permitted RCRA Subtitle C or D facilities.

Many states and municipalities restrict or prohibit the acceptance of treated effluents from remediation activities into their POTWs, even though the effluents do not differ significantly from other effluents treated at the plants, and are frequently treated to a higher standard than the effluents from industrial dischargers permitted under Section 307(b). In these situations, these effluents must be managed at great expense at permitted RCRA Subtitle C facilities, with little or no tangible environmental benefit.

### *Specific Recommendations*

We believe that Congress should consider at least two statutory initiatives during CWA reauthorization to aid in facilitating the cleanup of contaminated sites:

- Authorize EPA to develop regulations and effluent limits under Sections 307(b) and 402 that will allow expedited permitting of sites undergoing remediation; and
- Encourage states and municipalities to incorporate provisions into their POTW programs to facilitate permitting of treated wastewater originating from remediation sites.

### **Conclusion**

We at CH2M HILL, and many others who support the objectives of the CWA, believe that the Act is generally working well to achieve defined and important goals. We urge Congress to examine the issues that we have raised and to proceed reasonably and expeditiously to reauthorize this important statute with appropriate improvements. Thank you for this opportunity to provide our comments.



Ingrid B. Sheldon  
Mayor

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May 19, 1993

The Honorable Douglas Applegate  
Chairman  
Subcommittee on Water Resources and Environment  
U.S. House of Representatives  
Washington, D.C. 20515

SUBJECT: Reauthorization of the Clean Water Act

Dear Chairman Applegate:

I was recently informed by Congressman William D. Ford that the House Public Works and Transportation Committee is holding a series of hearings on the reauthorization of the Clean Water Act. According to Congressman Ford, it is anticipated that this law is actually going to be rewritten in the coming months. The City of Ann Arbor has various concerns regarding changes to the Clean Water Act which could impact upon the City's ability to continue protecting human health and the environment by providing efficient sewage treatment and stormwater management. These concerns are presented in the following paragraphs.

Amendments to the Clean Water Act which promulgate more stringent effluent standards will require sewage treatment plants to either modify existing equipment or install additional treatment processes in order to meet the new standards. To implement these changes,

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sewage treatment plants will require significant capital outlays and will incur higher operating costs. Congress should be reminded that, as with the original Clean Water Act, federal and state funding sources must be made available to municipalities to provide the financial assistance necessary to comply with more stringent discharge standards. Therefore, it is recommended that the committee renew the funding authorization for the state revolving fund loan program and consider increases recommended by President Clinton. Further, the committee should strive to simplify the process and requirements by which the state revolving funds are made available.

The City of Ann Arbor is committed to the protection of human health and the environment. At the same time, we are sensitive to the fiscal responsibility which our voting constituency has entrusted to us. Any adjustments to the Clean Water Act which lower discharge standards should be based upon sound scientific principles. Clear definitions of perceived problems are needed in order to develop the best solutions and to determine, in the future, whether the solutions are effective. Therefore, thorough human health risk assessments and environmental fate analyses of pollutants should be conducted to determine the level of increased removals required. Relative risks, relative benefits and cost analyses need to be performed before more stringent discharge limits are decided upon. Decreases in effluent concentrations

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which result in little or no perceivable improvements to the environment at an increasingly higher cost to the ratepayer must be avoided.

For example, USEPA Region 5 has recently tried to prevent changes to the mass loading requirements for a local community's sewage treatment plant in Coldwater, Michigan. Because the facility was increasing its flow to the plant's design capacity, and by maintaining the same mass loading requirement, USEPA Region 5 was in effect lowering the effluent concentrations at which the plant could discharge. The justification for this action was not based on the ability of the receiving stream to safely assimilate this discharge into the environment. The reason cited was that the plant had displayed the ability to treat wastewater to the lower concentrations based on its past performance.

However, USEPA Region 5 did not recognize that the improved performance occurred at flows below the design flow, and the efficiency of any sewage treatment plant will inevitably be greater at less than design flows. Additionally, water quality standards are expressed as acceptable concentration levels. As long as these concentrations are maintained, the water quality of the receiving stream will not be compromised, even at higher flows and consequently higher mass loadings.

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By restricting the sewage treatment plant, USEPA Region 5 is also preventing this community from providing wastewater treatment to a larger service population. When the local government and ratepayers contributed to the construction of this treatment plant, they did so with the understanding that it would be designed to accommodate expansion within their community. The net result is that an arbitrary decision not based on sound scientific principles, may lead to little or no improvement to the environment at the ratepayers' expense.

After Coldwater, the question we face is which municipally owned sewage treatment works in our region will be the next "target" of USEPA?

The trend toward lowering discharge standards must be a carefully considered path. It is not practical or prudent to pursue a policy of restricting the discharge of all pollutants at any concentration (i.e., zero discharge). Laboratories are continuously improving test methods and equipment. The result of these improvements is that more chemicals are being detected at significantly lower concentrations. Consequently, chemicals may be detected in the laboratory at concentrations which pose no or extremely low risk to human health or the environment. Because of the significant capital and operating costs to remove an

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incremental amount of a chemical, we cannot afford to take an approach of managing the environment based on treatment to achieve ever decreasing detectable concentrations of chemicals.

The major focus of both federal and state environmental laws has been directed primarily at regulating point source discharges. Because point source discharges are easier to identify and monitor, management of these facilities is a much easier task to address than management of non-point source discharges. However, a number of studies have indicated that non-point source discharges are contributing a significant amount of pollutants to the environment. All sources associated with water quality impairment should be considered by the committee. Overall, recognition needs to be given to the multi-media (ground, air and water) and regional nature of environmental issues. The recent Milwaukee water system problem and the growing levels of mercury in remote lakes show the relationship and need to address issues regionally.

As guardians of the public trust, we are responsible for protecting human health and the environment within the constraints of available funding for this purpose. Consequently, the focus of environmental regulations should be directed toward efficiently achieving the greatest benefit to the environment, while at the same time carefully considering the costs associated with the quantified benefits gained. The committee is requested to adopt

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the "Watershed Management" concept in the drafting revisions to the Clean Water Act as a mechanism to balance the point and non-point source controls needed to achieve the goals of the act and to insure that the most effective approaches to pollution controls are implemented. Environmental laws which impose stricter standards on point source discharges while ignoring non-point source discharges are not fiscally responsible; they are components of a policy which invests more of the ratepayers' money toward gaining less of a benefit to the environment. The committee should consider all major sources of pollution, in a holistic systems approach, the costs to abate these sources, and not overly regulate point source discharges.

With regard to the Huron River and Ann Arbor, the storm water permitting under the Clean Water Act has been less than optimal. By using population as the only selection criterion, the USEPA singled out Ann Arbor as the only community in the Huron River Watershed to regulate. This has resulted in the majority of the land area within the Huron River basin having little or no effective controls on runoff.

Ann Arbor and its storm water facilities are nearly fully developed. There are relatively few remaining opportunities within Ann Arbor to effect new development or construction of new storm water facilities. The growth opportunities remain in the townships

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and communities surrounding the City of Ann Arbor and within the Huron River watershed. These are the communities where stormwater regulations need to apply. These are the areas where much of the stormwater facilities are still developing. Areas where changes can be made to design practices/standards that will effect water quality at a relatively lower cost. Dollars spent at the design phase of stormwater systems in developing areas can have a larger impact on water quality than dollars spent on retro-fitting existing systems in highly developed areas.

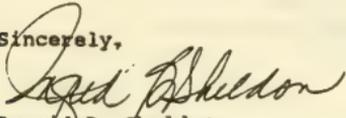
Ann Arbor has a well run Storm Water Utility that has spent to date \$550,000 to meet the challenges presented by the Clean Water Act. We look forward to working with the other communities in our watershed basin as they too become regulated through a "Watershed Management" approach and urge Congress to implement the program for communities under 100,000 as soon as possible.

Finally, the committee should recognize the unique federally mandated programs working in the Great Lakes region ,i.e. the Great Lakes Initiative, Lakewide Management Plans, etc. and should give this consideration and credit to their drafting of Clean Water Act revisions. Particularly, again, the need for financial assistance to complement such programs.

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The City of Ann Arbor will continue to protect human health and the environment by complying with all environmental laws. It is our hope that Congress will address and incorporate our concerns expressed in this letter when drafting revisions to the Clean Water Act. We believe that in doing so, Congress will be responsibly investing the taxpayers' and ratepayers' monies to achieve the highest degree of pollution control necessary in an environmentally responsive and cost effective manner.

Sincerely,



Ingrid B. Sheldon  
Mayor  
City of Ann Arbor, Michigan

701 Pennsylvania Avenue, N.W.  
Washington, D.C. 20004-2696  
Telephone 202-508-5400



**EDISON ELECTRIC  
INSTITUTE**

WALKER F. NOLAN  
Executive Vice President

May 14, 1993

The Honorable Douglas Applegate  
Chairman  
Subcommittee on Water Resources & Environment  
Committee on Public Works and Transportation  
U.S. House of Representatives  
Washington, D.C. 20515

The Honorable Sherwood L. Boehlert  
Ranking Minority Member  
Subcommittee on Water Resources & Environment  
Committee on Public Works and Transportation  
U.S. House of Representatives  
Washington, D.C. 20515

Dear Congressmen Applegate and Boehlert:

The enclosed statement is being submitted for the Clean Water hearing record by the Edison Electric Institute. On behalf of our member companies, we appreciate this opportunity to express our position on the Reauthorization of the Federal Water Pollution Control Act.

We look forward to working with your Subcommittee in this legislative effort, and will be pleased to clarify our position or answer any questions you may have concerning our statement.

Sincerely,

A handwritten signature in cursive script that reads "Walker F. Nolan".

Walker F. Nolan

WFN:awr  
Enclosure

**WRITTEN STATEMENT OF THE  
EDISON ELECTRIC INSTITUTE**

Submitted to the House Committee  
on Public Works and Transportation  
Subcommittee on Water Resources and the Environment

Regarding Reauthorization of  
Federal Water Pollution Control Act

May 14, 1993

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EXECUTIVE SUMMARY

The Edison Electric Institute (EEI) believes that **most of the Clean Water Act's current programs are fundamentally sound and should not be substantially changed.** The U.S. Environmental Protection Agency (EPA), states, and regulated parties have made huge strides in reducing pollution under the Act's current provisions during the past 20 years. The nation also has invested tremendous resources in achieving these solid results. Given the complexity of the Act, and the solid progress being made toward implementing its provisions, EEI encourages Congress to provide the regulated community and the regulatory agencies the stability of settled law to continue implementing the Act, without major changes.

EEI strongly supports retention of the thermal water quality and effluent limitation provisions of the Act set out in sections 316(a) and 303(g). Furthermore, EEI strongly supports continued availability of mixing zones for thermal discharges, without inappropriate statutory constraints. These features of the Act have served the nation well for more than 20 years, allowing electric utilities to discharge heat in an environmentally-sound and cost-effective manner. In fact, the concept of allowing a company to show that an alternative, site-specific limit will protect the environment as well as or better than a universal water quality standard or effluent limit set by EPA or a state should more broadly be applied in the Act.

Congress could improve implementation of the Act by clarifying that **dischargers are responsible only for their own additions of pollutants to a water body**, not for pollutants added by other dischargers or attributable to natural causes. EPA argues that it can set technology-based effluent limitations based on "gross" concentrations of contaminants in water, rather than the "net" contribution added by a particular facility, except in very limited circumstances. But requiring dischargers to take responsibility for contaminants they have not added to water is inequitable and is not in keeping with the intent of the Act to control discharges into the nation's waterways.

Congress also might improve implementation of the Act by requiring **EPA and the states to use reliable test methods and data in setting water quality standards, technology-based effluent guidelines, permit limits derived from those standards and guidelines, and other Clean Water Act**

**requirements.** EPA and the states should be required to validate analytic and test methods, through response to public comment and careful peer review, before issuing regulations based on those methods. Furthermore, standards, guidelines, permit limits, and other requirements imposed on regulated industries should be based on sound analyses and sufficient, good-quality data. For example, EEI has substantial questions about the accuracy and precision of some of the new "whole effluent toxicity" and biological test methods EPA is requiring states to adopt.

**EEI is very concerned about proposals in the 102d Congress to expand the reach of section 401 of the Act,** which allows states to review federally licensed projects to ensure that the projects will meet applicable Clean Water Act requirements. Such projects already are heavily regulated through the licensing process, which triggers not only section 401 review, but also reviews under a host of other federal laws, including statutes aimed at protecting environmental quality, federal lands, fish and wildlife, endangered species, and historic artifacts. Section 401 already fully addresses water quality concerns and should not be expanded.

Steps could be taken to **streamline the Act's permitting programs.** For example, Congress might reduce or eliminate the administrative burden under section 404 for human activities that have little or no impact on wetlands, such as construction, operation, and maintenance of utility transmission and distribution lines. EEI encourages Congress to authorize the concept of mitigation banking, to promote creation of new wetlands and restoration of degraded wetlands.

To the extent possible, Congress should **continue to encourage cooperative management of the nation's water quality,** providing incentives for regulated parties to work with EPA and the states in achieving the Act's goals, rather than penalties and fines. The Act's penalty and enforcement provisions are already too harsh in many respects and should not be increased or broadened.

These and a number of other issues -- antidegradation, pollution prevention, zero discharge, contaminated sediments, and watershed management -- are discussed in more detail in the following comments. EEI would be happy to elaborate any of its recommendations, upon request.

STATEMENT

The Edison Electric Institute (EEI) is the association of investor-owned electric companies. Its members generate approximately 78 percent of all the electricity in the United States and service 76 percent of all ultimate-use customers in the nation.

EEI's members recognize the importance of clean water. Along with other sectors of society, electric utilities rely heavily on the nation's water resources for a variety of purposes. First, water is essential to the production of electricity both as a coolant, removing heat produced by the process of generating electricity from fossil and nuclear fuels, and in the production of steam to run turbine-generators. In addition, water is used in electric utility plants for day-to-day operations, such as cleaning and waste treatment processes. Electric utilities also rely on surface water and groundwater as sources of drinking water for their employees and visitors. Finally, water is the very source of power at hydroelectric projects across the nation, providing not only clean, renewable energy, but also recreation, navigation, flood protection, irrigation, and fish and wildlife habitat.

The nation's electric utilities take their stewardship of this resource quite seriously. Electric utility companies have demonstrated leadership in safeguarding water quality in and around their projects. They comply with a host of regulations under the current Clean Water Act, including water quality standards and steam-electric technology standards. Furthermore, the companies have been leaders in developing and protecting fish and wildlife habitat, including wetlands, and in providing their communities such water-dependent benefits as boating, fishing, and swimming. The nation's electric utilities are proud of this stewardship and look forward to continuing to work with Congress, the U.S. Environmental Protection Agency (EPA), and state and local governments in managing this valuable resource.

1. GENERAL COMMENTS ON REAUTHORIZATION

EEI's principal comment about the Clean Water Act (CWA or the Act) is that the Act is fundamentally sound. In particular, the Act's provisions for overseeing point source discharges and federally-permitted activities are largely in place, comprehensive, and working well. While improvements certainly can be made in these programs at the margin -- we suggest a few below -- there is no need to make substantial changes in the Act's basic provisions. Furthermore, there is real value in having stability in the law, especially when the cost of complying with a statute is as substantial as it is here. EPA, the states, and the regulated community need to be able to continue working to achieve the Act's current goals without substantial changes in the targets toward which they are aiming. For these reasons, EEI encourages Congress to reauthorize the Act without

substantial revision of the Act's current programs, recognizing the environmental success story the Act already represents.

Instead of adding new layers of requirements to programs already in place in the Act, EEI encourages Congress to help streamline the regulatory process and to reduce the Act's complexity wherever possible. One simple change that would cut a key regulatory burden in half would be to allow EPA and the states, in appropriate circumstances, to issue National Pollutant Discharge Elimination System (NPDES) permits for up to 10-year periods instead of five years. Another change would be to reduce the administrative burden of complying with section 404, especially for human activities that have little or no impact on wetlands. Congress might also encourage EPA and the states to look for ways to improve administration of the Act.

EEI would welcome better recognition of the need for cooperation among all parties with a share in managing the nation's water resources. Rather than imposing increasingly stringent statutory restrictions and enforcement provisions on regulated industries such as the electric utility industry, EEI encourages Congress to recognize that industry, state and local government, and EPA are partners, all working together to safeguard water quality. The Act should provide incentives to promote cooperation and to invite wise management of our water resources, rather than mandates and penalties, to the maximum extent possible.

The remaining sections of this statement contain more detailed comments on primary areas of concern to our industry, specifically:

- thermal discharges
- water quality standards
- antidegradation
- net-gross issue
- NPDES permits
- section 401 certification
- pollution prevention, zero discharge
- contaminated sediments
- watershed management
- wetlands
- compliance and enforcement

Each section is organized into three parts: (1) "background" remarks, describing relevant statutory and regulatory provisions; (2) an "impacts" section, describing the effects of those provisions on electric utilities and the environment; and (3) "EEI recommendations" for maintaining positive aspects of and improving the Act.

## 2. THERMAL DISCHARGES

### A. BACKGROUND

Power plants typically draw cooling water from a water body and circulate it through condensers to absorb heat generated during power production. In many cases, this water is then discharged back to the water body, a process known as once-through cooling. If the Act did not allow otherwise, NPDES permit writers would typically impose generic thermal effluent limits on the discharge of this cooling water.

However, since the Act was passed in 1972, CWA sections 316(a) and 303(g) (33 U.S.C. §§ 1326(a) and 1313(g)) have allowed departure, in appropriate circumstances, from both technology- and water quality-based generic effluent limitations otherwise applicable to thermal discharges. These provisions recognize that local aquatic and biological conditions may warrant less stringent thermal criteria than those set on a statewide or national basis. Specifically, under these provisions of the Act, if a discharger can demonstrate that an alternative thermal limit will assure protection and propagation of a balanced indigenous population of shellfish, fish, and wildlife in and on the receiving water body, the regulator may grant an adjustment of the effluent limitation.

In addition, because heat dissipates rapidly to the environment, is a naturally-occurring phenomenon, and does not bioaccumulate, many state water quality standards include thermal mixing zones. These are specified areas where temperatures may exceed limits otherwise required by the standards. For example, thermal mixing zones may be allowed in oceans, large lakes, and large rivers with substantial flow if the zones will not affect shellfish beds, spawning areas, and anadromous fish passage. EPA allows states to establish reasonable mixing zones for thermal discharges, recognizing that these zones do not cause adverse effects to the overall water body.

### B. IMPACTS

For more than 20 years, relying on sections 316(a) and 303(g) and on reasonable use of mixing zones, regulators working with the nation's electric utilities have been able to select the best means of managing thermal discharges at power plants to ensure protection of the environment. As a result, many plants are now meeting appropriate standards protective of the aquatic environment without having to rely on expensive technology that otherwise could have been universally and unnecessarily required.

Most utilities have studied thermal discharges at their power plants and have found the effects of the discharges to be minor. Indeed, thermal discharges can be beneficial, helping to sustain populations of fish and other wildlife, such as the Florida manatee, that benefit from warm water. As the following comments by eminent fishery biologist Charles C. Coutant substantiate, Congress made a wise decision more than 20 years ago in enacting section 316(a):

Unlike many ... pollutants, thermal discharges are non-toxic, non-persistent and non-accumulative. Additionally, because heat dissipates rapidly, any effects are geographically limited. Experience gained during 20 years of applying section 316(a) to the discharges of many power stations has significantly improved our understanding of the ecological effects of thermal discharges. [Studies of these discharges] have enhanced the electric utility industry's ability to manage this potential pollutant in a manner that is least detrimental, and often beneficial, to the ecosystem and its use by human society. ... [R]epealing § 316(a) would be ill-advised.<sup>1/</sup>

Absent section 316(a)/ 303(g) alternative thermal limits and mixing zones, many utilities would have to install cooling towers or take other costly measures that are not needed to protect the environment in order to meet generic thermal permit limits. Although cooling towers and other such measures can reduce the quantity of heat and rate of cooling water discharged to a water body, they also can have a number of social, environmental, and economic disadvantages that may outweigh their benefits at particular sites, especially in retrofitting existing plants.

According to a study prepared by Stone & Webster Engineering Corporation for EEI in 1992, the cost of replacing the nation's existing once-through cooling systems with cooling towers would be on the order of \$41 billion.<sup>2/</sup> At individual facilities, capital costs alone would be about \$250 million for a typical nuclear plant and about \$39 million for a moderate-size coal-fired plant. In addition, retrofitting an existing plant with cooling towers can reduce the plant's performance, in part because some of the energy produced by the plant must be used to pump cooling water to the towers and back to the unit. This energy loss must be made up. Nationwide, it could be on the order of 9000 megawatts. Also, operation and maintenance costs will tend to go up for converted plants.<sup>3/</sup>

Requiring electric utilities to spend large sums of money to replace current once-through cooling systems and to scramble to make up corresponding energy losses, in order to meet uniform temperature requirements not tailored to protection of the local

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<sup>1/</sup> *Regulation of Thermal Discharges: Maturing Perspectives After Two Decades of Field Studies Under Section 316(a)*, Charles C. Coutant, Ph.D., 1992, p. 1 (copy enclosed as Appendix A).

<sup>2/</sup> *Evaluation of the Potential Costs and Environmental Impacts of Retrofitting Cooling Towers on Existing Steam Electric Power Plants That Have Obtained Variances under Section 316(a) of the Clean Water Act*, Stone & Webster Engineering Corporation, April 1992, p. 3 (copy enclosed as Appendix B).

<sup>3/</sup> *Id.*, pp. 27-43.

environment, would not be a wise use of limited societal resources. These costs would end up being borne by electric utility customers to no good end.

In addition, replacing existing once-through cooling systems with cooling towers can produce environmental effects. Cooling towers consume more water than once-through cooling systems because they rely on evaporation as a cooling mechanism. For a typical natural-draft tower, more than 1 million gallons of water evaporate and must be made up every day. Furthermore, in some instances, conversion of the once-through cooling systems can locally increase siltation, salt drift, fogging, and icing. Also, cooling towers require land that may not be available, especially at existing power plants in urban areas.<sup>4/</sup> For these reasons, it may be impracticable to retrofit many existing power plants with cooling towers.

The U.S. Department of Energy also has examined the potential effects of deleting section 316(a), and has reached similar conclusions about the potential economic and environmental effects.<sup>5/</sup> In the agency's view, "Considering the extremely high costs, very minimal benefits, and expected environmental impacts if the Section 316(a) variance were eliminated, little justification has been found for deleting Section 316(a) from the CWA."<sup>6/</sup>

EPA also has studied section 316(a), focusing on environmental effects and EPA's own administration of the provision.<sup>7/</sup> Although EPA has identified a variety of improvements that it intends to make in administering the section, the agency has concluded that, for the majority of facilities studied with section 316(a) limits, "impacts from thermal effluent have not been found to be large and/or permanent."<sup>8/</sup> The agency also believes that "the Section 316(a) variance is a useful tool when appropriately and consistently applied."<sup>9/</sup>

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<sup>4/</sup> *Id.*, pp. 44-47.

<sup>5/</sup> *Impact on the Steam Electric Power Industry of Deleting Section 316(a) of the Clean Water Act: Capital Costs and Energy and Environmental Impacts* (two separate volumes), by Argonne National Laboratory for the U.S. Department of Energy, January 1993.

<sup>6/</sup> *Id.*, p. 3.

<sup>7/</sup> *Review of Water Quality Standards, Permit Limitations, and Variances for Thermal Discharges at Power Plants*, U.S. Environmental Protection Agency, 1992.

<sup>8/</sup> *Id.*, p. 18.

<sup>9/</sup> *Id.*, p. 19.

### C. EEI RECOMMENDATION

**Alternative limits for thermal discharges should remain available to facilities which can demonstrate that such limits are protective of a water body's aquatic life. Also, EPA and the states should continue to be able to use mixing zones in their water quality standards and effluent limitations.**

Where a permittee can demonstrate that an alternative thermal limit is sufficient to protect a balanced, indigenous population of shellfish, fish, and wildlife, as existing section 316(a) currently provides, regulators should continue to be able to rely on that alternative limit. These alternative limits should also continue to satisfy the water quality standard provisions of the Act, as CWA section 303(g) now specifies. Furthermore, EPA and the states should remain free to use mixing zones for thermal discharges appropriate to the nature of these discharges, without inappropriate size or locational constraints.

### 3. WATER QUALITY STANDARDS

#### A. BACKGROUND

The Clean Water Act requires states to set water quality standards (WQS) to support beneficial uses of their rivers and streams. The states must designate beneficial uses for each water body, and they must develop numeric or narrative criteria necessary to attain and maintain those uses. The numeric criteria typically specify the concentration of particular pollutants that must be met instream, while the narrative criteria describe instream water quality conditions that must be met (for example, "no toxic pollutants in toxic amounts"). The Act provides that, whenever technology-based effluent limitations will not ensure attainment of applicable WQS, more stringent water quality-based limitations must be imposed in NPDES permits issued under the Act.

The Act gives EPA responsibility for overseeing state WQS programs to ensure consistency with the Act's provisions. EPA must review and approve or disapprove state-adopted WQS, and the agency must adopt appropriate WQS where a state fails to do so. The Act also requires EPA to develop pollutant-specific guidance to assist states in setting WQS. Due to limited time and resources, states often adopt EPA's guidance criteria in full, even though those criteria typically are driven by extremely sensitive organisms that are not indigenous to a particular state's waters and are developed using laboratory water that does not reflect local stream conditions.

At EPA's behest, some states have begun using "whole effluent toxicity" (WET) testing to set numeric criteria and to implement narrative criteria. WET testing involves exposing aquatic organisms to an effluent to determine whether, and at what concentration or concentrations, undesirable toxic effects will occur. EPA also recommends that states use biological surveys as a separate method for setting and

implementing criteria. This essentially involves taking field measurements of the types and numbers of resident organisms at a location likely to be affected by an effluent discharge and comparing those measurements to standard indices that the state has determined reflect attainment of applicable designated uses.

#### B. IMPACTS

As state WQS programs mature, electric utilities are being subjected to an increasing number of water quality-based discharge permit limits. In many cases those limits are significantly more stringent than necessary to achieve designated uses. The methods for deriving the criteria and the effluent limits are extremely conservative. Also, the water quality criteria often are based on species not found in receiving water bodies to which a specific utility discharges, and the species on which the criteria are based often are more sensitive to a given discharge than the resident species.

In addition, some standards are based on insufficient information or questionable analytic methods. The water quality criteria on which discharge limits are based often are not supported with sufficient scientific data. The accuracy and reliability of many of EPA's analytic methods, such as WET testing and biological field surveys, have not received adequate peer-review and validation for use in the regulatory and enforcement context. Also, it can be difficult or impossible to attribute the results of a particular biological field survey to any particular discharger, especially if multiple dischargers and nonpoint sources are present.

A case in point is EPA's WQS guidance criterion for copper, a metal frequently found in minute concentrations in water discharged by coal-burning power plants. The criterion is based on data for only the most sensitive aquatic species for which data were available to EPA. Yet, pressured by lack of time and resources, states are broadly adopting the criterion without regard to whether those species or species of like sensitivity are even present within the state or in a given water body. As a result, utilities may have to install costly treatment systems or cease discharges to protect species that do not exist anywhere near their facilities.

Complying with unnecessarily stringent water quality-based limits can have effects on other environmental media. In many cases, removing pollutants from aqueous waste streams produces solid wastes or air emissions that can create cross-media environmental concerns. Furthermore, compliance with overly stringent water quality-based permit limits and conditions can be extremely expensive in terms of capital, operation, and maintenance costs. Such expenditures should not be required when not needed to protect the resource.

### C. EEl RECOMMENDATIONS

**States should continue to have primary authority for setting and implementing appropriate water quality standards. EPA's role should be limited to providing guidance and overseeing state activities.**

EEl believes that WQS should be protective of human health and aquatic life, but should not be more restrictive than necessary to protect the realistic uses of a particular state's waters. States should continue to be primarily responsible for setting WQS, which should reflect the specific water body and aquatic life being protected. States should be required to tailor their WQS to reflect resident species in the specific water body being regulated, and to reflect water body-specific physical and chemical characteristics, rather than adopting EPA criteria across-the-board. In addition, states should continue to be able to set water quality-based permit limitations based on reasonably-sized, site-specific mixing zones, in particular for thermal discharges.

States also should be required: (1) not to set standards more stringent than the lowest concentration that can be measured reliably by approved test methods, and (2) to account for the unique characteristics of the particular pollutant being regulated. For example, a relatively large percentage of the metals a power plant may discharge are biologically unavailable and, hence, non-toxic to aquatic life. This should clearly be recognized in regulating discharges of those metals.

**Adequate research, studies, and validation of test methods should precede regulation based on those methods.**

EEl believes that water quality-based permit limitations are justified under the CWA only when reliable data demonstrate that technology-based limits are inadequate to protect water quality. However, many of the test methods currently being used to set WQS and to determine whether technology-based limits suffice are not scientifically accurate or sufficiently peer-reviewed.

EEl urges that the scientific and implementation problems with these tests be resolved before EPA and the states rely on them. Specifically, biological monitoring and assessment techniques, such as WET testing and biocriteria, should be relied on in the regulatory and enforcement process only after the scientific and implementation problems in their application are resolved. All such test methods should be subject to thorough performance scrutiny and peer review, should be fully and properly validated under CWA section 304(h), and should be adopted under Part 136 of EPA's regulations before being promoted for widespread adoption by state and federal regulatory agencies.

Furthermore, while EEI supports the concept of using instream surveys to assess receiving water quality, the information obtained thereby should be weighed along with all other available evidence (including chemical-specific and WET tests) in making regulatory decisions.

**The regulated community should have adequate opportunity to participate fully in all aspects of the development of water quality standards, including development of guidance documents and test methods.**

The CWA should promote cooperation among federal and state authorities and the regulated community. The regulated community and the public should have an adequate opportunity to comment on all proposed WQS, policy statements, guidance documents, and test methods, many of which are not currently made available for public comment before they are used in the regulatory process. Also, EPA and the states should fully address the concerns and issues raised in those comments.

**Confirmation of test results is necessary before regulatory and enforcement decisions are made.**

Due to variability in all test results, a single test failure should not be the sole basis for regulatory or enforcement decisions. The CWA should ensure that dischargers are given the opportunity to conduct confirmatory testing of analytic test results, as a matter of right, before permitting and enforcement decisions are made. Furthermore, the variability in test results should be reflected in NPDES permits. These issues are discussed in more detail in the compliance and enforcement section (section 12) below.

#### 4. ANTIDegradation

##### A. BACKGROUND

The CWA authorizes EPA to develop "antidegradation" policies. Even before the Act was amended in 1987 to include that specific authorization, EPA already had promulgated an antidegradation policy, which is set out at 40 C.F.R. Part 131. The policy requires each state, as part of its WQS, to adopt an antidegradation policy that: (1) fully protects existing water body uses, (2) prohibits degradation of waters where water quality exceeds levels necessary to protect "fishable/swimmable" uses, unless a discharger can show that lowering water quality is necessary to accommodate important economic or social development, and (3) prohibits lowering water quality in "outstanding National resource waters" (ONRWs), such as waters of national and state parks and wildlife refuges, and waters of exceptional recreational or ecological significance. At the same time, EPA has properly acknowledged that state antidegradation policies also must be consistent with CWA § 316(a) and must not preclude use of modified thermal permit limits under that section.

## B. IMPACTS

As interpreted by several EPA Regional Offices, EPA's antidegradation policy can result in permit limits more stringent than necessary to meet applicable WQS. Also, on its face, the policy can be applied to any increase in pollutant discharge, no matter how *de minimis* its impact on water quality. As a result, the policy may prevent utilities from increasing discharges from existing sources or discharging from new sources, even if the discharges would not violate any applicable WQS or pose significant environmental concerns. To this extent, the policy can unnecessarily restrict the development of new or expanded power facilities, posing a concern about utilities being able to meet the nation's energy needs. Antidegradation policies also can act as a major disincentive to voluntary improvement in effluent quality via pollution prevention techniques or use of innovative wastewater treatment technology.

## C. EEl RECOMMENDATIONS

**States should retain flexibility to manage water quality as socially or economically justified.**

EEl supports a policy that protects water quality in a manner that is flexible enough to allow states to permit new or increased uses of their water resources that are socially or economically justified yet comply with applicable WQS. EEl supports application of antidegradation policies in a manner that allows changes in effluent quality or quantity where it can be demonstrated that such changes meet applicable water quality standards and have little or no impact on designated uses.

**The states are best equipped to designate uses and define high quality waters and outstanding national resource waters (ONRWs).**

EEl believes that states are in the best position to obtain accurate site-specific information for use in designating uses for water bodies and defining state "high quality" waters and ONRWs. At the same time, EEl believes that states must justify those decisions with scientifically valid data.

## 5. NET-GROSS ISSUE

### A. BACKGROUND

Typically, a point source discharger will take water from a water body, use it in a water-dependent process that may add contaminants to the water, treat the water to remove many of the contaminants, and then return the treated water to the original water body. Some or all of the contaminants added during the process may also be

found in the water body from which the water was withdrawn, either due to natural causes or having been added by other point or nonpoint sources upstream.

In enacting the Clean Water Act in 1972 and amending it in subsequent years, Congress has focused attention on reducing and controlling "discharges of pollutants," which section 502 of the Act defines as the *addition* of pollutants to a water body by a point source. The Act's provisions on technology-based effluent limitations (section 301), water quality-based effluent limitations (section 303), new source performance standards (section 306), pretreatment standards (section 307), water quality certification (section 401), NPDES permits (section 402), and dredge-and-fill permits (section 404) all focus on such discharges.<sup>10/</sup> Thus, the Act is aimed at controlling net concentrations of pollutants that are being added to a water body, not gross concentrations of contaminants some of which were in the water body in the first place.

However, EPA asserts that it has authority to set technology-based effluent limitations based on gross concentrations of pollutants in a discharge, ignoring concentrations in the original water body. Although EPA does allow use of net-based limitations as an exception in some cases, this exception is available only under very limited circumstances. See 40 C.F.R. § 122.45(g). Furthermore, EPA has not explicitly made this exception available for water-quality-based limits. Although industry groups have tried to challenge EPA's net-gross regulations in the U.S. courts of appeals, the courts have refused to consider the legality of the rules until after EPA has applied them in a specific case.

#### B. IMPACTS

By setting effluent limitations based on gross concentrations of pollutants in a discharge, EPA is requiring dischargers to remove not only pollutants they have added to their waste streams, but also contaminants present in water because of natural causes or contributed by other point or nonpoint sources. At the same time, EPA and the states are reducing permissible concentrations of many pollutants to extremely low levels. These developments can produce effluent limitations that are inappropriately stringent and prohibitively expensive to meet. While removing a particular pollutant from a discharge to very low levels may be physically possible, the lower the level, the more expensive and technically difficult such removal will be. At very low levels, costs can soar exponentially, often with little or no benefit to the environment. To exacerbate this situation by requiring companies to spend enormous sums of money and resources to reduce concentrations of contaminants in their discharges below background levels is inequitable.

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<sup>10/</sup> Section 401 focuses on "discharges," which section 502 of the Act defines as "discharges of pollutants." Section 404 focuses on "discharges of dredge and fill material," but section 502 defines "pollutant" as including dredge spoil.

### C. EEI RECOMMENDATION

**Congress should clarify that EPA and the states must take background levels of contaminants into account when setting permit limits, so that dischargers are held accountable only for their net additions of pollutants to a water body.**

Although the Act already strongly suggests that Congress intended EPA and the states to set limits based on net discharges of pollutants, EPA has asserted a different view. Clarifying this point would bring fairness and rationality back to the Act. If a particular substance is found in a water body naturally, or is being added to the water body by upstream users, the downstream discharger should not bear the burden of removing quantities of the substance the downstream discharger did not add.

## 6. NPDES PERMITS

### A. BACKGROUND

Section 402 of the Act authorizes EPA and the states to issue permits for discharges of pollutants if the discharges meet a host of requirements set out in the Act. The discharges must meet technology-based effluent limitations, water quality-based limitations, new source performance standards, pretreatment standards, monitoring and inspection requirements, and ocean discharge criteria, as applicable. States can issue permits only if EPA has approved their permit programs, which also must meet a number of criteria. Section 402(b) limits the permits to five years in duration.

### B. IMPACTS

The permit issuance or reissuance process can easily take as much as two years, during which time the discharger who has applied for a permit must submit substantial information about the proposed or existing discharge to EPA or the state agency issuing the permit. The resulting permit can be quite complex, often containing 25 pages of standard terms and conditions in addition to specific requirements for each waste stream at the facility. Yet a scant three years later, the process must begin again. This imposes a substantial drain on limited EPA, state, community, and business resources.

### C. EEI RECOMMENDATION

**EEI encourages Congress to allow permit writers to issue permits under section 402 for periods up to 10 years, in appropriate circumstances.**

This simple change would substantially reduce the regulatory burden that point source dischargers -- including electric utilities, other businesses, and municipalities -- now face under section 402. This change also would reduce the administrative burden that

EPA and the states face. According to EPA, there are more than 62,000 NPDES permits,<sup>11</sup> so the potential relief here is substantial. Furthermore, this change poses no threat to human health or the environment. Permit writers would use professional judgment to determine whether a permit term longer than five years is appropriate, case by case. In many cases, NPDES standards are set stringently enough that having them apply for 10 years would not pose an environmental threat.

In fact, allowing dischargers to work with their permits for 10 years instead of five could improve permit compliance and achievement of the Act's goals. Ten-year permits would allow companies to invest in better waste treatment technology, some of which (such as reverse osmosis technology) is quite expensive and time consuming to install. Also, being able to work with given technology for more than three to five years before new technology must be added would allow companies to gain operational experience with their waste treatment systems, improving prospects for ongoing compliance with their permits.

## 7. SECTION 401 CERTIFICATION

### A. BACKGROUND

Under section 401 of the CWA, states have the opportunity to ensure that projects being licensed by federal agencies meet applicable Clean Water Act requirements. An applicant for a federal license or permit for any activity that may result in a discharge to navigable waters must obtain a certification from the state in which the discharge will originate that the discharge will comply with applicable water quality standards, effluent limitations, and other such requirements. Under section 401(d), the provisions of the certification become conditions of the federal license.

### B. IMPACTS

Electric utilities are affected by section 401 in a variety of contexts. Hydropower projects licensed by the Federal Energy Regulatory Commission (FERC), nuclear power plants licensed by the Nuclear Regulatory Commission, and dredge-and-fill activities permitted by the Army Corps of Engineers all trigger 401 certification. Yet all of these activities are heavily regulated by the federal agencies that license or permit them.

For example, when FERC licenses or relicenses a hydropower project, the agency is required by law to consider a number of factors – the need for energy from the project, the project's positive and negative impacts on recreation and the environment,

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<sup>11</sup> *Report to Congress on Clean Water Act Enforcement Mechanisms*, U.S. Environmental Protection Agency, March 1992, p. 2.

the project's effect on navigation and flood control, project economics, and so forth. FERC solicits comments from numerous interested participants, including state and federal agencies dealing with issues such as water quality, fish and wildlife, historic preservation, and land management. FERC then carefully considers the input received from every one of these agencies, as well as comments from Indian tribes, project proponents, and the public. It issues licenses aimed at providing maximum public benefits, seeking to reconcile the various comments to the extent possible.

The FERC licensing process ensures a careful, balanced approach to accommodating numerous state, federal, and public concerns. Indeed, the Federal Power Act (FPA) gives states special opportunities to participate in the licensing process. Under section 10(a) of the FPA, states may prepare comprehensive plans for improving or developing their waterways, taking into account a variety of specified public uses, and FERC will specifically consider those plans in licensing projects. Furthermore, under section 10(j) of the FPA, state and federal fish and wildlife agencies may propose specific recommendations for protecting fish and wildlife, and FERC must give special deference to those recommendations.

FERC has interpreted section 401 as being independent of this comprehensive licensing process. As a result, FERC does not screen state agency 401 conditions but merely adds them to project licenses, regardless of whether the conditions relate to water quality and even if the conditions conflict with the FERC license conditions. In recent years, some state water quality agencies have sought to impose conditions through their 401 certifications that FERC might not have deemed appropriate, consistent with the overall project license, or necessary to protect water quality or the environment. Indeed, some agencies have attempted to impose non-water quality conditions dealing with issues such as recreation and navigation in their 401 certifications. Such conditions can threaten a project's viability, preventing environmentally and economically sound projects from being licensed.

### C. EEI RECOMMENDATION

**Congress should not expand section 401, nor should Congress add another layer of regulation of federally-licensed projects to the Clean Water Act. If anything, Congress should clarify that states are authorized under section 401 to address only water quality issues, not to supplant the federal licensing and permitting process.**

States already have ample authority under section 401 of the existing Act to ensure that federally-licensed projects will meet applicable water quality requirements. If states have *non*-water quality concerns about such projects, those concerns should not be addressed in the Clean Water Act. Instead, states should avail themselves of the generous opportunities to raise such concerns in the licensing process.

For the same reasons, Congress should take care in expanding other provisions of the Act, such as the Act's nonpoint source provisions, that might affect federally-licensed projects. If expanded too broadly, such provisions could add another layer of regulation to such projects, which already are heavily regulated under the federal licensing process. Again, water quality concerns about such projects are fully addressed through section 401. To add new CWA regulations aimed at non-water quality issues would be inappropriate and counterproductive.

In the hydropower context, expanding section 401 or adding another layer of regulation would erode the federal government's ability to authorize environmentally sound projects. Such expansions of the Act would merely exacerbate the problem of state water quality agencies second guessing FERC on *non-water quality* grounds. In turn, this could threaten the viability of hydropower projects, giving the water quality agencies control over power generation, fish and wildlife, recreation, navigation, irrigation, and flood control. The FERC licensing process has served the country well by allowing responsible development of hydropower projects for decades. Congress should not now erode that process at the expense of one of the nation's cleanest, most dependable, renewable sources of energy.

## 8. POLLUTION PREVENTION, ZERO DISCHARGE

### A. BACKGROUND

The Clean Water Act requires EPA to establish effluent guidelines that identify methods for eliminating discharges of pollutants. The Act also requires EPA to establish effluent limitation guidelines that eliminate discharges where technologically and economically achievable for a class or category of sources. Independently, the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. §§ 13101-13109) requires EPA to develop and implement a strategy for voluntary pollution prevention by the business community. This law recognizes options for reducing threats to human health and the environment, including, in order of preference, source prevention or reduction, recycling, treatment, and disposal or discharge.

Under the PPA, EPA must encourage use of source reduction measures through guidance documents, information sharing, state grant funding, training programs, technical assistance to the business community, an annual award program, and measurable goals. The act defines "source reduction" to include changes in equipment and processes that reduce the amounts of pollutants in a waste stream and thereby reduce hazards to public health and the environment. The law emphasizes the use of incentives, flexible programs, and innovative, cost-effective technology to achieve its goals.

As a first step toward implementing the PPA, EPA has developed a national pollution prevention strategy, 56 Fed. Reg. 7849 (Feb. 26, 1991) that sets two goals for pollution prevention: (1) reducing risks to human health and the environment, and (2) enabling industry to implement cost-effective measures to minimize waste generation and to reduce compliance and disposal costs. EPA's strategy rejects the idea of "zero discharge" (i.e., eliminating discharges to a receiving water altogether). EPA recognizes that wastes that cannot feasibly be prevented or recycled should be treated in accordance with the CWA and residues from treatment should be disposed of safely.

#### B. IMPACTS

Utilities have found that different pollution prevention and recycling programs, tailored to their individual situations, offer the best way to reduce the amount of waste they must manage. Those programs use a wide range of techniques, including best management practices, chemical substitution, equipment changes, reformulated processes, recycling, and improved operations. Due to the various power generating and related processes used at different types of power plants, flexibility to try different techniques has figured significantly in the success of these programs. For this reason, a mandatory pollution prevention program would be extremely undesirable. Such a program could impose inflexible requirements, forcing utilities to take action (1) whose cost is not commensurate with the environmental benefits and (2) that does not fit the company's individual circumstances.

#### C. EEl RECOMMENDATIONS

**Pollution prevention programs should continue to be voluntary, flexible, and driven by appropriate incentives. The Pollution Prevention Act of 1990 is the correct approach.**

EEl supports a policy of voluntary pollution prevention actions by industry, and endorses the overall approach to this issue taken in the Pollution Prevention Act of 1990. EEl does not believe that any further legislation is needed to promote industry initiatives. The Pollution Prevention Act fully encourages industry to adopt innovative and cost-effective pollution reduction measures. The Act's most positive aspects are the flexibility it allows utilities to adopt measures that conform to the particular processes at their power plants and the appropriate incentives it provides for those efforts.

**Pollution prevention programs should recognize and account for the cross-media effects of any specific type of source reduction.**

Accordingly, EEl supports implementation of EPA's national strategy within the confines of the CWA's existing statutory and regulatory scheme. EPA also should aim for national consistency on this and other key points by providing guidance to states for developing strategies and technical assistance programs. State and local governments

implementing pollution prevention programs should coordinate closely with affected industrial and commercial entities, which are in the best position to understand and evaluate the implications of any source reduction for their operations, including cross-media transfer.

**Pollution prevention programs should focus on reducing pollution to levels that do not adversely affect human health or aquatic organisms in the receiving water.**

EPA's national strategy recognizes that pollution prevention does not mandate zero discharge and acknowledges that after cost-effective pollution prevention and recycling efforts, a discharge may contain a *de minimis* amount of pollutants as long as treatment and discharge comply with applicable CWA requirements. If a discharger achieves that level, then EPA's pollution prevention goals are attained despite the presence of pollutants, many of which are naturally present in the environment.

**Congress should not mandate zero discharges of contaminants.**

Zero discharge limits rarely, if ever, will be justified by reference to tangible water quality or other environmental benefits. Also, mandating them for a particular contaminant or class of contaminants can prevent EPA, states, and the regulated community from identifying *de minimis* concentrations of the contaminants that may pose essentially no harm to human health or the environment. If the contaminants are found in nature, requiring zero discharge is especially unlikely to make sense.

Furthermore, achieving a zero discharge objective can be tremendously expensive, not only to the specific discharger faced with such a requirement, but also to society if such requirements are broadly applied. Removing the last increments of a contaminant from a discharge also can be virtually impossible. Few, if any, physical or chemical treatment processes can achieve this goal.

Zero discharge limits also present insurmountable compliance monitoring and enforcement problems. Analytic test methods are not capable of measuring down to absolute zero. Furthermore, to force industrial dischargers to monitor for discharges at the lower limits of detection -- where measurements are inevitably inaccurate -- can expose them to inappropriate enforcement action and penalties, as discussed further in the compliance and enforcement section (section 12) of this statement.

## 9. CONTAMINATED SEDIMENTS

### A. BACKGROUND

Water pollution regulation traditionally has focused on protecting the quality of water in the water column. Recently, however, EPA has begun to focus on the potential impacts of pollutants that might collect in sediments. Contaminated sediments are a source of concern to EPA because they may be consumed directly by organisms and be passed up the food chain, or because they may release contaminants into the water column where adverse effects to resident organisms may occur. EPA believes that it already has authority to regulate contaminated sediments and to encourage states to adopt sediment quality criteria as part of their WQS. EPA currently is developing methodologies for deriving sediment criteria for a specific group of organic chemicals and metals, and also is developing a standardized sediment chronic-toxicity test.

### B. IMPACTS

To the extent sediment regulations require utilities to remove additional amounts of contaminants from their discharges, this will affect their operations and will affect other environmental media. For instance, virtually all existing waste water treatment systems that might be used to meet sediment quality-based permit limits produce solid waste that must be removed and disposed of. Similarly, requiring removal of contaminated sediments already in place would generate solid wastes which, even if treated to minimize their volume, ultimately would have to be disposed of. Furthermore, disturbing existing sediments, whether for treatment or disposal, can have more negative impacts on the environment than leaving them in place.

EEl recognizes the need for attention to sediment contamination in certain polluted "hot spots" across the country. However, EPA already has authority under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) to address problems at such locations. Beyond this, EPA is still in the process of developing the analytic methods and environmental criteria necessary to gauge *whether* sediment contamination in general poses an environmental threat. Yet even without having these basic tools in place, EPA is actively encouraging permit writers to establish controls to address sediment contamination. To compensate for the lack of sound scientific data, permit writers may impose unnecessarily conservative restrictions, and there is no way to tell whether the resulting regulations and permit conditions are warranted or proper.

EEl also believes that utilities should not be required to take responsibility for sediment quality problems caused by others. EPA is still in the process of grappling with the technical issues involved in identifying point and nonpoint sources of pollutants responsible for sediment contamination and allocating responsibility among those sources. Failure adequately to address these issues could lead EPA to require industrial facilities

to shoulder more than their fair share of the regulatory burden. EEI would oppose this as unfair and inequitable to the nation's utilities and, ultimately, to consumers of electricity.

### C. EEI RECOMMENDATIONS

**EPA should be required to conduct further research into sediment quality issues, including test methods, before implementing a new regulatory program. Sediment criteria, test methods, and remediation technology relied on by EPA must be scientifically and technically sound.**

To begin with, basic questions about the need for a new sediment regulatory program, and the wisdom of tampering with existing sediments, need to be answered before EPA and the states launch new sediment control initiatives. As to sediments that may already be contaminated, the wisest course of action may be to leave such sediments in place rather than requiring them to be treated or removed.

In addition, significant research is necessary to develop scientifically defensible sediment quality criteria and testing methods. Sediment criteria should address those factors which, on a case-by-case basis, can affect the transport and toxicity of contaminants in sediments, such as salinity, dissolved oxygen content, and pH. Any guidance or WQS criteria that failed to account for such factors would lack proper scientific basis. Also, at a minimum, any remediation required must be based on proven, sound techniques and should account for the water quality and other environmental effects of the remediation itself. EPA should focus on species indicators based on sediment quality, such as the Shannon-Weaver index.

**Ultimately, states should have the authority to prevent and control contamination of sediments as necessary and appropriate to protect public health and the environment at reasonable cost.**

If a sediment regulatory program is needed, the states -- which are best able to take account of the wide variations in aquatic and geographic variables affecting sediment conditions within their waters -- should have primary responsibility for the regulation of contaminated sediments, with guidance and oversight from EPA.

**The Clean Water Act should ensure that dischargers have the right to perform confirmatory testing before expensive, burdensome sediment control requirements are imposed.**

Due to the variability of test results associated with the sediment toxicity testing procedures EPA is now developing, the CWA should ensure that dischargers have the opportunity to conduct confirmatory testing, as a matter of right, in response to any positive test results before control or remediation requirements are imposed.

Furthermore, the tests must not be used at levels beyond their capability to measure accurately.

**The Clean Water Act should ensure that regulators identify sources of sediment contamination with reasonable certainty, and equitably allocate responsibility for the contamination based on sound data, before imposing corresponding sediment controls.**

Contamination of sediments generally will develop over long periods of time and may result from many pollutant sources, both point and nonpoint. The Clean Water Act should ensure that EPA and the states conduct research sufficient to determine the various point and nonpoint sources of sediment contamination, and regulators should be required to justify any sediment-related permit limits by establishing a direct causal link between the discharger and the contamination. Moreover, the Act should ensure that once such a link has been established, responsibility for controlling or remediating contamination is allocated on a reasonable and equitable basis. Out of fairness, point sources should not be required to address contamination attributable to natural causes.

**The Clean Water Act should require regulators to consider all water quality and non-water quality-related environmental impacts in assessing contaminated sediment remediation options.**

To begin with, sediment remediation should continue to be addressed under remedial statutes such as Superfund rather than the Clean Water Act, focusing on those cases where the need for remediation to protect human health or the environment has been demonstrated. In addition, before requiring any form of remediation, regulators should be required to perform a risk analysis to determine whether leaving the sediments in place is the best course of action, and whether the benefits of remediation outweigh the costs. Because removing or otherwise remediating contaminated sediment can affect both water quality (for example, by increasing turbidity or resuspending pollutants) and other environmental media (for example, by increasing solid waste disposal needs), the Act should ensure that regulators identify and balance these effects against the water quality benefits of requiring remediation. Only proven, cost-effective remediation techniques should be required. Finally, responses should be flexible and tailored appropriately to each specific situation.

## 10. WATERSHED MANAGEMENT

### A. BACKGROUND

The concept of "watershed management" is being discussed on the Hill in the context of reauthorizing the Act. Just what the concept means, however, and how it may be incorporated into new legislation are unclear. The "watershed" for a particular water body, be it a stream, lake, or estuary, is the area that ultimately drains into that water

body. For a small "prairie pothole," this may be the surrounding fields. For the Mississippi River, it is half of the continental United States, including all of the land area that supports tributaries of the river.

The Act already contains several provisions that promote management of water quality by focusing on watersheds. These include the nonpoint source management program under section 319, the areawide waste treatment management program under section 208, the Chesapeake Bay program under section 117, and the Great Lakes program under section 118. Each of these sections encourages EPA and the states to identify sources of pollution contributing to a particular water body or water bodies and to set priorities for managing the pollution from those sources.

#### B. IMPACTS

The impacts of using watershed management as an approach to implementing the Clean Water Act are hard to predict, not knowing the specifics of what might be proposed. However, the concept raises a number of questions: What is the relevant watershed for planning purposes -- the land area supporting the *tributary* to a larger river, or the land area supporting the larger river? How will planning for smaller watersheds nested within larger watersheds be coordinated? What are the implications for point sources, which are already heavily regulated, of being linked together with nonpoint sources in a given watershed? Will the substantial reductions in pollutant loadings already achieved by point sources be fully recognized and credited? Will trading of pollutant allowances be considered between point and nonpoint sources, and how will such a program work? How will interstate watersheds be managed? How will inter-basin issues be addressed? How will the concept of watershed management interact with existing CWA requirements, and how can we avoid disrupting the progress already made under the existing Act? How will local land use requirements fit into a watershed management program?

#### C. EEL RECOMMENDATION

**Any watershed management requirements that might be added to the Clean Water Act should be carefully thought out before being proposed in legislation.**

On the one hand, watershed management may offer a way for states to organize their management of the myriad sources of pollution, both point and nonpoint sources, within their borders. But watersheds do not stop at state borders, and using the concept even within a given state raises the many questions posed above. Care needs to be taken to ensure that point sources that already are heavily regulated under the Act are not expected to shoulder an even greater share of the burden for achieving state water quality goals. The utility industry stands ready to participate in development and implementation of watershed programs that make good sense.

## 11. WETLANDS

### A. BACKGROUND

The primary program for managing the effect of human activities on wetlands under the Clean Water Act is the dredge-and-fill permit program set out in section 404 of the Act. Under that provision, EPA and the U.S. Army Corps of Engineers share responsibility for evaluating proposals to dispose of dredged or fill material in the nation's waterways, including wetlands. The Corps has primary authority for evaluating applications and issuing or denying permits under section 404. It has developed a number of "nationwide permits" for activities that it has determined have minimal impact on the nation's waterways. EPA has veto authority over Corps decisions, and the two agencies work closely together in developing guidance on such issues as how to identify a wetland and what mitigation is required for impacts caused by dredge and fill activities.

### B. IMPACTS

Obtaining an individual permit under section 404 can be a lengthy and arduous process. For example, the process of getting state and federal permits for a simple transmission line siting can require years, multiple studies, and several iterations. In such a setting, it helps to have fairly fixed ground rules. Yet even the definition of a wetland or a jurisdictional discharge, and the scope and interpretation of the nationwide permits, change over time. Also, the permitting process is not always applied consistently, either from case to case or in different regions of the country. This adds uncertainty that complicates complying with section 404 and imposes unequal burdens on the regulated community.

Electric utilities are no strangers to wetland issues. Because they rely so heavily on water for the production of energy, including the need for cooling water, these companies often must locate their facilities near water. As a result, the companies have learned how to site transmission and distribution power lines and other utility facilities in wetland areas with minimal if any impact on the wetlands. The nation's electric utilities are proud of their careful stewardship of the nation's wetlands and the wetland benefits the companies have been able to provide in their communities. They take their role in protecting this resource quite seriously.

### C. EEL RECOMMENDATIONS

**In reauthorizing the Act, Congress should reduce or eliminate administrative burdens for human activities that have little or no impact on wetlands, including transmission and distribution line siting, operation, and maintenance.**

On a tour at one of our member company's facilities last fall, congressional staff were able to see firsthand that locating, operating, and maintaining power lines in

wetland areas can be done with little or no impact. By using minimal impact towers and careful construction, operation, and maintenance techniques, including amphibious equipment, electric utilities have established long runs through such areas without disturbing the local ecology or hydrology. Indeed, with large sections of their service territories surrounded by or close to water and wetlands, many companies have no practical choice but to locate such facilities in wetlands.

In addition, because of the importance of maintaining electric service to the many families and businesses utilities serve, electric utilities need quick and effective access to their facilities, both for ongoing maintenance and to repair the facilities after storms or other natural disasters. Again, such activities generally have little or no impact on the wetlands.

**Furthermore, Congress should require permit writers under section 404 to take into account limitations imposed on permit applicants by other federal and state siting and licensing processes.**

In siting their facilities, including transmission and distribution lines, electric utilities generally must undergo extensive federal and state siting approval or licensing processes. If federal lands are involved, the federal land management agency's approval may be required. In most if not all states, the state public utility commission's approval will be required, and that approval typically is based on extensive public involvement and consideration of environmental factors. Furthermore, under federal and state law, other agencies may be involved, such as the state's water resources board and coastal zone management agency.

By the time all of these agencies and the public have finished reviewing and approving a facility, a section 404 permit applicant's siting options usually will be legally and practically constrained. The applicant may not *have* any practicable alternatives to a proposed site or route. Permit writers under section 404 should recognize this in determining whether the proposed site is acceptable under the practicable alternatives test and in determining appropriate permit conditions.

**To encourage companies to create and restore wetlands, such created or restored wetlands should not be subject to section 404 jurisdiction unless, at a company's option, the company seeks and is given "mitigation bank" credit for a particular wetland. Congress should authorize EPA and the states to establish mitigation banks whereby companies can obtain such credits for later sale or exchange.**

Section 404 actually discourages companies from establishing new wetlands and restoring wetlands lost through prior human activity and natural processes. Once a company establishes such wetlands, it risks having to obtain a section 404 permit in order to engage in activities involving those wetlands. As a result, companies hesitate to take positive steps that otherwise would augment the nation's wetland resources. To help

solve this problem, Congress should exempt from 404 jurisdiction wetlands that a party has created or restored until the party seeks credit for those wetlands in a mitigation bank or similar arrangement.

EEl supports the concept of mitigation banking, whereby companies would get credits for wetlands and other habitats they have created or restored and would be able to exchange credits if necessary in order to conduct activities that otherwise might be constrained under the Act. By encouraging landowners to develop new wetlands in particular, such a program could help the nation meet its goal of stemming the loss of wetlands without unnecessarily impeding continued economic growth and development.

## 12. COMPLIANCE AND ENFORCEMENT

### A. BACKGROUND

To begin with, the news about compliance with the Clean Water Act is good. As then EPA Administrator William K. Reilly noted in testimony to the Public Works Committee two years ago, EPA and the states have "implemented discharge standards for over 50 industrial categories, typically reducing pollutant loadings by 90%."<sup>12/</sup> More than \$75 billion has been spent in federal, state, and local funds to construct municipal sewage treatment works, 82 percent of which now meet secondary treatment standards. As a nation, we now invest on the order of \$41 billion per year in water quality, resulting in marked progress towards fishable, swimmable waters.<sup>13/</sup> These achievements are in large part the result of hard work by EPA, the states, and the regulated community to clean up the nation's waters.

Dischargers report their compliance to EPA and the states by submitting self-monitoring reports in accordance with their NPDES permits. Any single violation of a permit limit or condition is considered a violation of the CWA, regardless of fault or intent, and the violation may result in enforcement action. The 1987 CWA Amendments markedly increased EPA's enforcement authority, including a substantial expansion of EPA's administrative enforcement powers.

The Act now imposes harsh sanctions for violations of its provisions. Section 309 authorizes civil and criminal penalties as high as \$100,000 per day plus imprisonment up to six years, and administrative penalties up to \$125,000 per violation. At least one

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<sup>12/</sup> *Testimony of William K. Reilly, Administrator, U.S. Environmental Protection Agency before the Committee on Public Works and Transportation, U.S House of Representatives, March 20, 1991, pp. 1-5.*

<sup>13/</sup> *Id.*

federal district court has interpreted a single violation of an average monthly limit as 30 separate violations, and none of the other federal courts has yet taken a position to the contrary. *Chesapeake Bay Foundation, Inc. v. Gwaltney of Smithfield, Inc.*, 611 F. Supp. 1542, 1555-56 (E.D. Va. 1985)).

Where neither EPA nor a state has taken enforcement action in response to a potential violation, citizens are authorized to "step into the shoes" of the government by filing suit under section 505 of the Act. However, plaintiffs in such cases must first notify EPA, states, and potential violators and give them an opportunity to act. The U.S. Supreme Court has reviewed the Act's citizen suit provision and determined that citizens are not authorized to file suit based exclusively on past violations that have been remedied. *Gwaltney v. Chesapeake Bay Foundation*, 484 U.S. 49 (1987). The Court viewed this constraint as the most logical reading of section 505, which the Court interpreted as allowing citizen suits to supplement, not supplant, EPA and state enforcement authority under the Act.

Not only are the Act's enforcement provisions ample, but they also are being used aggressively. According to EPA, 12 percent of the penalty cases the agency brought in fiscal year 1991 were under the Act, among the highest share for any of the statutes EPA implements. These enforcement actions resulted in more than \$26.6 million in judicial and administrative penalties.<sup>14/</sup>

## B. IMPACTS

The CWA requires utilities to achieve compliance with their NPDES permits 100 percent of the time. Yet for a number of reasons outside the control of permittees, that level of compliance can be difficult or impossible to achieve. To begin with, EPA sets water quality standards and technology-based requirements under the Act at very stringent levels. In many cases, WQS are at or near the limits of detection for a given contaminant, and technology requirements push the envelope of what a given industry can accomplish. Also, no technology can operate as designed and intended 100 percent of the time, even if it includes some margin for error. Even companies that are properly operating and maintaining their treatment systems at all times may occasionally exceed their permit limits.

In addition, compliance monitoring introduces an element of uncertainty. A company can find itself in apparent violation of its permit but not actually be in violation because of erroneous or misleading test results. Regulators have been known to set permit limitations for substances at levels below the level at which analytic test methods

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<sup>14/</sup> *Enforcement Accomplishments Report for Fiscal Year 1991*, U.S. Environmental Protection Agency, April 1992, Appendix entitled "FY 1991 National Penalty Report," p. 7.

can measure reliably. At such levels, a test result may be wrong because the test is being used beyond its limits. In addition, laboratories can err in determining test results, producing "false positives." As a consequence, companies can face substantial risk of liability when in fact they actually are in compliance with their permit.

### C. EEI RECOMMENDATIONS

**CWA provisions concerning enforcement and compliance are more than adequate and should not be broadened.**

Recent EPA enforcement statistics show that the enforcement provisions of the CWA already are more than adequate to achieve and maintain permittee compliance with the CWA.<sup>15/</sup> Indeed, as interpreted and applied by some courts and regulators, they may go too far. Under the rationale of the above-referenced district court *Gwalney* decision, for instance, a discharger could face \$750,000 or more for violation of a single monthly average permit limit, 611 F. Supp. at 1555. As permit limits become stricter and the number of permit conditions increase, expanding the scope of enforcement provisions and limiting prosecutorial discretion would serve more to discourage companies who are doing their best to comply with their permits than it would to increase compliance. Such actions also would increase the risk that permittees would face enforcement actions for minor technical infractions or misleading test results.

In addition, EPA and the states need flexibility to apply their enforcement authority based on the circumstances of each individual case. One of the CWA reauthorization bills introduced last year would have precluded issuance of an NPDES permit to any permittee with two or more permits out-of-compliance. But again, especially for companies with multiple facilities, and given the stringency of modern NPDES permits, this would have seriously upset implementation of the Act and the regulated community's ability to continue operating their facilities. In the case of electric utilities, this poses substantial potential national energy concerns.

Rather than developing new and ever more burdensome enforcement tools, Congress should encourage improved communication and cooperation between federal and state regulators and the regulated industries. Then, with a better understanding of the compliance issues faced by the dischargers they are regulating, state agencies in particular can use the extensive information and enforcement tools at their disposal fairly and effectively to ensure compliance with the Act's complex permit limits and requirements.

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<sup>15/</sup> See, for example, EPA's March 1992 *Report to Congress on Clean Water Act Enforcement Mechanisms* and EPA's *Enforcement Accomplishments Report for FY 1991*.

**Imposing additional burdens on dischargers to monitor or report compliance is unjustified.**

The CWA currently requires extensive self-reporting for dischargers. Discharge monitoring reports (DMRs) require permittees to report the degree of their compliance with applicable permit limitations and conditions. DMRs become a part of the public record, allowing regulatory authorities and interested citizens an opportunity to gauge the permittee's compliance. Furthermore, permitting authorities are free to inspect facilities to verify the accuracy of self-monitoring information. Any additional self-evaluation requirements or reporting requirements would only add to the already heavy administrative burden to which utilities are subjected. Such additional requirements are not warranted.

**Citizen suits should continue to be restricted to ongoing violations, and such suits should not be allowed when EPA or a state has decided not to seek civil or criminal sanctions as a matter of prosecutorial discretion.**

EPA and the states should be given full "prosecutorial discretion" not to cite a company that is striving to comply with its permit limits in good faith, and citizen suits should not be allowed in such cases even for current violations. If EPA or a state believes that a permittee is fully cooperative and is acting in good faith to eliminate its compliance problems, EPA and the state should have the option not to impose sanctions on that permittee. Citizen groups should not be able to circumvent that determination by seeking civil penalties. Citizen suits in such a setting undercut efforts by EPA and the states to work with permittees toward compliance. The suits reduce the ability of the regulatory agencies to provide positive incentives for compliance.

Furthermore, the CWA should not allow citizens to bring suits for wholly past violations. Once a permittee has solved its compliance problems, no good purpose will be served by allowing citizen suits that merely penalize the permittee's past violations. Such suits would not be an incentive to achieve compliance, because the permittees already would be in compliance when the actions were brought. Nor would the suits be a significant deterrent against future violations, because permittees already will be subject to civil penalties and imprisonment for any new violations they might commit.

#### CONCLUSION

In summary, EEI encourages Congress to preserve the principal existing provisions of the Clean Water Act. The Act should encourage EPA and the states to work together with regulated industries to achieve the nation's water quality goals, supporting research and information sharing and using incentives wherever possible. Congress should direct EPA and the states to base regulatory requirements on sound science and data, with full participation by permittees and the public and with adequate peer review. Furthermore,

those regulatory requirements should focus on areas of greatest risk, producing benefits that equal or exceed their costs. EEI and its members stand ready to cooperate fully in these endeavors.

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TEL: 703/821-0770 • FAX: 703/821-1350

May 12, 1993

The Honorable Douglas Applegate  
Chairman, Subcommittee on Water  
Resources and Environment  
Committee on Public Works and Transportation  
United States House of Representatives  
E370-A Rayburn House Office Building  
Washington, D.C. 20515

Dear Mr. Chairman:

On behalf of the members of the Food Industry Environmental Council (FIEC), we appreciate the opportunity to provide input for your consideration as the Subcommittee on Water Resources and Environment addresses reauthorization of the Clean Water Act (CWA). We respectfully request that this submission be included in the record pertaining to the recently concluded Subcommittee hearings on this issue.

Overview

FIEC is comprised of national food manufacturing and processing trade associations and individual companies. Together, the Council represents approximately 15,000 companies which employ more than 1.4 million people and are responsible for approximately \$121 billion of sales annually. FIEC has been formed to support sound, effective environmental policies and to coordinate the activities of its members, particularly as these activities relate to reauthorization of the CWA.

FIEC's objective is to serve as a resource to Congress to provide any necessary data regarding the processes used in the manufacture and delivery of food as related to CWA considerations. In addition, FIEC will evaluate any proposed legislative amendments to determine their potential impact on the continued safety and availability of the nation's food supply. Therefore, we hope that our comments will serve as the first step in a continuing dialogue during your deliberations of CWA reauthorization.

FIEC supports Congressional efforts to ensure that this nation's waters are clean and protected. It is essential to the companies represented by this Council that a continuous supply of clean water be available for use in food processing. It also should be recognized that the food processing industry has invested millions of dollars in pollution control technology to protect our waters, and along with other industries, has improved water quality significantly. For example, the loadings of conventional and toxic

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pollutants to surface waters have been reduced by over 90 percent since the implementation of the National Pollutant Discharge Elimination System (NPDES) permitting program and the National Pretreatment Program. Progress will continue to be made under existing law.

FIEC's primary message as you begin considering reauthorization of the CWA is that, overall, the Act is working quite well. Perhaps some fine-tuning may be appropriate, but a wholesale rewrite of the legislation is neither warranted nor desirable.

#### Legislative Goals

It is a goal of the Council to ensure that there is an adequate supply of clean water for use in providing consumers with safe and nutritious processed food at reasonable prices. As you evaluate various proposed amendments to the Act, we urge you to consider the following guiding principles:

- o Based on sound scientific data, any proposed amendment should improve water quality significantly, fairly, flexibly, and cost effectively.
- o Any proposed amendment should not affect food safety adversely or contradict current food safety regulations.
- o Any proposed amendment should not contribute to the need for an increase in the price of the food supply.
- o Any proposed amendment should not cause a loss of jobs.

FIEC believes all amendments should be evaluated against these principles.

The Council believes that any proposed changes to current regulations should be based on a risk-based approach that is grounded on sound and appropriate scientific analysis. Only those amendments which ensure cost-effective and efficient solutions to any problems presented, or not addressed, by the current regulations should be adopted. This fine-tuned approach must recognize and evaluate industry specific needs. For example, any wholesale prohibition of certain chemicals for all industries would not be desirable. This is certainly the case with some disinfectants, which may be dispensable in some industries, but which are essential to food processors for ensuring the safety of the food supply by maintaining a contaminant-free workplace. In fact, regulations promulgated by the Food and Drug Administration (FDA) and the U.S. Department of Agriculture (USDA) stipulate that certain chemicals can and should be used in food plants for sanitation and other purposes.

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In addition, any revisions to the CWA should be consistent with other environmental programs and should not create cross-media environmental problems. The solution to water pollution problems for example, should not create new solid waste or air emission problems.

#### Legislative Suggestions

FIEC recognizes that, while this country has made substantial progress toward improvement of water quality, more can and should be done to accomplish the goals of the CWA. Specifically, legislative proposals should embody provisions to ensure adequate funding of ongoing programs, particularly the National Pretreatment Program, the Non-point Source Pollution Program, and Control of Combined Sewer Overflows. Adequate funding of these programs would provide continued cost-effective improvements in water quality.

Moreover, a major revamping and revision of the CWA presently is not needed and would be counterproductive to the continued progress being made under the existing program. Dramatic changes to the Act are not needed particularly since most of the proposed changes, if adopted, would result in significantly increased regulation, spending, administrative burdens, and costs without achieving significant public health benefits and enhanced environmental quality.

Based on FIEC's review of several proposals put forth during the last session of Congress, we offer the following specific comments on provisions that might be under consideration by the Subcommittee:

- o Conventional Pollutants. The current technology controls on conventional pollutants are adequate and should be retained. Additional restrictions on conventional pollutants would not be cost-effective and would not result in any significant improvement in water quality. Accordingly, the current effluent guidelines for conventional pollutants should not be modified. The Council also recommends that ammonia and chlorine be retained as non-conventional pollutants contrary to some suggestions that these two chemicals should be added to the list of toxic pollutants. The weight of scientific evidence does not support the inclusion of these chemicals on the toxic pollutant list. Inclusion of ammonia and chlorine on the toxic pollutant list would add substantial cost to industries and municipalities, without associated environmental benefits.
- o Water Quality Standards. Water quality standards should reflect efficient resource allocations on a site-specific basis and should result from a consideration of the costs and benefits of associated controls. It is necessary to recognize that the goal of fishable and swimmable waters, as contained in the original Act, may be unrealistic for all waters and would result in an inefficient allocation of resources.

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- o Water Quality Monitoring. Water quality monitoring requirements, while important, should focus on generating useful and not excessive data and should be industry-specific.
- o Pretreatment. There have been some suggestions that indirect dischargers should be required to meet the same effluent levels imposed on direct dischargers, and that indirect dischargers should receive NPDES permits. The Council suggests that this requirement would increase the financial, technical, and administrative burdens on both industry and the regulators, with no significant improvement in POTW performance. The Council encourages Congress to fund adequately the National Pretreatment Program and allow adequate time for it to be effective before enacting any additional, and perhaps unnecessary requirements.
- o Permit Fees. Permit fees should be reasonable and fair. The Council urges Congress to consider an equitable funding mechanism. Since water quality permit programs benefit the public as a whole, funding these programs should not burden unduly any one segment. Therefore, the Council urges that public funds generally be used to finance federal and state water quality programs.
- o Toxics Use. During the last session of Congress, mandatory toxics use reduction was contemplated, including required changes in production processes, products, or raw materials that would eliminate the use of toxic substances. FIEC believes Congress should reject any such proposal. Toxics use reduction should be voluntary and should not be micro-managed by EPA. Individual companies, not EPA, should determine what production processes will be used in their facilities taking into account many factors, such as product quality, safety and other resource conservation and environmental pollution concerns. EPA is not in a position to make those decisions for the thousands of facilities subject to effluent guidelines, nor should any government agency be given such responsibility. Companies are keenly aware of the multimedia impacts in the cost of environmental planning decisions and already consider these issues in their plans. Legislation including these mandates simply is not needed.

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- o Audit Programs. The Council urges Congress to encourage the use of audit programs which would avoid the threat of public disclosure and prosecution for efforts to correct identified problems.

Conclusion

FIEC suggests that Congress should be guided by the fact that substantial progress has and continues to be made in improving water quality. Any proposed changes to the current CWA programs should be evaluated thoroughly using cost-benefit analyses to assess their efficacy and to determine if they are necessary. Changes that have the potential to affect adversely food safety and supply of this nation's processed foods should be rejected.

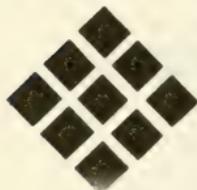
The Council appreciates the opportunity to provide these comments and looks forward to with you and other Subcommittee members during the reauthorization process.

Sincerely,

American Bakers Association  
American Frozen Food Institute  
American Meat Institute  
The Biscuit and Cracker Manufacturers'  
Association  
Chocolate Manufacturers Association  
Grocery Manufacturers of America  
International Dairy Foods Association  
National Broiler Council  
National Confectioners Association  
National Food Processors Association  
National Pasta Association  
National Soft Drink Association  
Snack Food Association

cc: Subcommittee on Water Resources  
and Environment

**ACWA**



ASSOCIATION OF  
CALIFORNIA  
WATER AGENCIES

*a non-profit corporation  
since 1910*

**Testimony Submitted by Stephen K. Hall  
Executive Director  
Association of California Water Agencies**

**on  
The 1993 Reauthorization of  
the Federal Water Pollution Control Act  
before**

**The Committee on Public Works and Transportation  
U.S. House of Representatives**

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I would like to thank the Chairman and the Members of the Public Works and Transportation Committee for allowing the Association of California Water Agencies (ACWA) an opportunity to comment on the reauthorization of the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (CWA). As you may know, ACWA is a non-profit association of California's public water agencies. It is the largest single-state coalition of water purveyors in the United States. ACWA represents more than 400 agencies which together are responsible for delivering 90 percent of California's domestic and agricultural water.

ACWA believes that there are five issues which the Committee should consider as it begins the process of reauthorizing CWA. They are as follows:

*1. States' rights must be preserved.*

As federal law increasingly impinges on traditional water rights and state laws, it is important to reaffirm that the Clean Water Act (CWA) does not give the federal government authority to allocate water. CWA must not impede state water allocation systems when the need arises to modify stream flows.

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*Testimony of Stephen K. Hall, Association of California Water Agencies*2. *Protection of drinking water supplies should be a goal of the Act.*

The CWA explicitly protects fish, shellfish, wildlife, and water for recreation. It should also address public health needs through the protection of drinking water supplies.

3. *Creative, economically feasible solutions to non-point source pollution should be examined.*

Non-point source pollution from agricultural drainage is currently exempted from CWA permits under section 402 (l) (1). Although the CWA has significantly increased water quality by reducing industrial pollution, non-point source contamination remains a significant water quality issue. Voluntary state-sponsored best management practices standards should be set to address non-point source pollution.

4. *The Act should promote the use of reclaimed water.*

The reclamation and reuse of water in arid regions of the West is an effective way of enhancing available water resources. Regulations governing water quality have created impediments to the use of reclaimed water. CWA should facilitate, not frustrate, the use of reclaimed water.

5. *The wetlands provisions of the Act have failed and should be modified.*

The national wetlands policy governed by section 404 of the CWA has not worked in California. Both the state's wetlands and its public interest projects have suffered under the current system. Section 404 must be substantially altered.

I would now like to go into greater detail on each of these points.

*States' Rights*

For the last twenty years, CWA has protected our nation's waterways from the discharge of harmful pollutants. Now there is increasing interest in expanding the Act's scope to protect the physical and biological integrity of America's surface waters. The desire to protect aquatic ecosystems through the use of CWA is a laudable goal. It is also a dramatic departure from the current implementation of the Act. Such a departure could have a significant impact on California's water allocation system.

To the economies of California and the rest of the arid West water is lifeblood. Over the last century and a half, a complex amalgamation of overlapping water rights, state laws and interstate compacts have been woven into a water allocation system. It is on this system that California's population and economy has grown and now depends. As

*Testimony of Stephen K. Hall, Association of California Water Agencies*

incomprehensible as this system seems, it represents the only rational system for allocating water within the state.

The allocation of water by its very definition requires water rights holders to divert water, and in turn the process of diversion invariably impacts on the ecological "integrity" of natural waterways. If CWA authorizes the Environmental Protection Agency (EPA) to protect the physical and biological integrity of streams, it will substantially shift the control of water allocation from the state to the federal government. Such a shift would threaten the integrity of California's water allocation system and could have dire consequences for the state's economy. It could also have unintended negative environmental impacts.

ACWA believes that neither the CWA nor any of its amendments should supersede, abrogate, or impair state water allocation systems and water rights. Under section 101 (g) of CWA the regulation of water rights is specifically reserved to the states. Section 101 (g) should apply to all existing and new or altered programs resulting from the reauthorization of CWA. States must have the primary responsibility and prerogative for allocating, determining, and administering rights to quantities of water. Water rights asserted by federal agencies and Indian tribes should be claimed in the appropriate state water forum under the provisions of the McCarran Amendment. No federal agency should utilize any provision or program of the CWA to allocate or reallocate quantities of water. Finally, no provision of the CWA should be used to prohibit or limit the development of water allotted to a state under interstate compacts or equitable apportionment cases.

ACWA and its members are committed to protecting California's aquatic ecosystems. ACWA's member agencies spend billions of dollars annually to ensure that the water they discharge into California's rivers and streams is clean. California's public water agencies, however, cannot sanction a federal statute which has the potential to prevent them from delivering reliable and affordable water to their customers.

**Protection of Drinking Water Supplies**

Currently, CWA protects water for the needs of fish, shellfish, wildlife and human recreation. This standard has been used with great success to protect wildlife and recreational opportunities associated with our nation's waterways. Surface water, though, is not only an important ecological and recreational commodity, it also serves as a primary source of drinking water. The Association therefore encourages the Committee to consider adding the protection of public drinking water supplies to the requirements of sections 101 (a) (2), 304 (a) (2) (B) and 305 (b) (1) of the Act. CWA should further ensure that the protection of public drinking water supplies takes precedence over recreational activities where the two are in conflict.

*Testimony of Stephen K. Hall, Association of California Water Agencies*

### **Watershed Management**

The concept of watershed management has been in place in many states including California for some time. Although improvements to the states' systems can be made, ACWA believes that fundamentally the state, and not the EPA, should manage watersheds within its boundaries.

One important aspect of watershed management is the control of non-point source pollution. Although point source pollution has been dramatically reduced by the enforcement of CWA, non-point source runoff continues to be a significant source of contamination. ACWA believes that individual states should adopt economically feasible, voluntary best management practices to reduce non-point source pollution. The Act should require states, in cooperation with the agricultural community, to develop technically and economically feasible, voluntary best management practice standards to reduce agricultural runoff. The cost of such initiatives should be shared among the beneficiaries of the program including the federal, state and local governments.

### **Water Reclamation (Recycling)**

In the arid West, water recycling can boost available water supplies for economic and environmental uses. Unfortunately, the lack of flexibility under CWA requires reclamation projects to meet the Act's stringent "fishable and swimmable" standard. It is often impossible for reclamation projects to economically meet this standard, preventing what would otherwise have been economically and environmental sound projects from going forward.

ACWA supports amending section 101 of CWA to include a policy statement supporting the use of reclaimed water. The statement should also make it clear that water bodies created through the use of reclaimed water need not meet the stringent CWA criteria of "fishable and swimmable." Water quality standards for such aquatic environments should be based on the unique nature of the individual reclamation project and not presume a final use objective.

### **Wetlands**

Section 404 of CWA has become one of the Act's most controversial measures. By all accounts, section 404 is not working. The process which is intended to preserve our nation's wetlands has turned into a bureaucratic quagmire, aggravating landowners and frustrating vital public works projects while seemingly providing few of the environmental benefits for which the language was drafted.

*Testimony of Stephen K. Hall, Association of California Water Agencies*

ACWA supports amending section 404 to include the following provisions.

1. A regional approach to wetlands preservation should be established. Regional master plans for wetlands should be developed to identify existing wetlands. An assessment should be made of their relative biological value and whether they were created naturally or artificially. Future wetlands mitigation sites should also be identified.

Wetlands types and needs vary tremendously from one region to the next. Developing a regional master plan would not only end much of the confusion landowners and public works project planners face when determining which areas are protected under the Act, but it would also aid state and local long-term land use planning efforts.

2. States, such as California, should be given incentives to assume the administration of the 404 permitting process since they are more familiar with their regional needs. States also should retain their authority over land use planning. In the last decade, section 404 has been used as a federal land use planning tool, a tool that should rightly reside with the state and not the federal government.

3. The 404 permitting process must be streamlined. A scoping process for potential project applicants should be developed which would allow them to meet with all the federal agencies involved in the 404 permitting process to address potential problems before an application is submitted. Further, new 404 permits should not be required every time standard maintenance is performed on an existing project. The process also should allow maintenance requirements to be considered in the initial project application, forestalling the need for additional permits unless the circumstances change significantly.

An expedited permitting process should also be developed for projects which fit within the criteria outlined in the new regional master plans. Deadlines should be established for the permitting process and periodic progress reviews should be conducted to prevent permits from bogging down. An effective dispute resolution mechanism should be established to resolve differences between the varying federal agencies and between the federal agencies and the applicant.

4. The application of the 404 permitting process must be more uniform and fair. The Act should require EPA vetoes to be based on evidence presented in the administrative record. EPA should also provide feasible alternatives when a project is rejected. Training and coordination of personnel for both the Army Corps of Engineers and the EPA is needed. The permitting process should also give consideration to a project's social importance.

5. The current single-minded emphasis curtailing dredge and fill operations should be reexamined. Dredge and fill operations are not the only type of projects which impact wetlands, and yet these projects have to bear the brunt of mitigation requirements. CWA should encourage EPA and the Army Corps to develop a more balanced and broad-based view of wetlands preservation.

*Testimony of Stephen K. Hall, Association of California Water Agencies*

6. Finally, 404 permitting requirements for incidentally created artificial wetlands associated with water treatment and delivery systems should be eliminated. Section 404 was developed to preserve existing natural wetlands which are an integral part of our country's ecological systems. Incidentally created man-made wetlands are clearly not part of our natural heritage, and should not be protected by the CWA.

I would again like to express my thanks to the Chairman and the other members of the Public Works Committee for considering ACWA's comments on the reauthorization of CWA. The Association believes that with the notable exception of section 404, CWA has worked fairly well. Over the last twenty years the Act has helped to markedly improve the quality of many of our nation's rivers, streams and lakes. More needs to be done, but Congress should proceed cautiously as it attempts to improve on one of our country's more successful environmental laws.



## International Association of Fish and Wildlife Agencies

Organized July 20, 1911

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May 28, 1993

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The Honorable Douglas Applegate, Chairman  
Subcommittee on Water Resources and Environment  
House Committee on Public Works  
and Transportation  
B370-A Rayburn House Office Building  
Washington DC 20515

Dear Mr. Chairman:

Please find attached a statement of the IAFWA for the record on the hearings held on reauthorization of the Clean Water Act by your subcommittee in April and May. The Association appreciates the opportunity to comment on this very important issue, and would be pleased to answer any questions you may have regarding our statement.

As your subcommittee progresses in its deliberations over wetlands and reauthorization of Section 404, in particular, the Association would appreciate the opportunity to appear before your subcommittee to share with you our interests and concerns. I would thus appreciate it if you would give the Association serious consideration as a panel member for any future hearings on bills or other topics relating to wetlands.

Thank you for allowing the Association to share our thoughts on this important issue with you.

Sincerely,

R. Max Peterson  
Executive Vice President

**Attachment**

cc: Honorable Sherwood L. Boehlert, Ranking Member

STATEMENT SUBMITTED TO THE  
HOUSE SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT  
OF THE HOUSE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION  
ON WETLANDS CONSERVATION

by R. Max Peterson, Executive Vice President  
International Association of Fish and Wildlife Agencies  
May 28, 1993

The IAFWA appreciates the opportunity to submit a statement for the record on a subject of long-standing concern to the Association -- the Nation's vitally important wetlands. Wetlands conservation, and its implications to wetland-dependent fish and wildlife, is a subject in which fish and wildlife professionals have years of experience and expertise. The Association has taken a leadership role in several key wetland initiatives, including the North American Waterfowl Management Plan and measures to increase the cost of the Federal Duck Stamp; all to further wetland protection. The current controversy surrounding wetlands, and the resultant potential for weakening the protection of these significant and vitally important habitats, is of grave concern to the Association.

The International Association of Fish and Wildlife Agencies, founded in 1902, is a quasi-governmental organization of public agencies charged with the protection and management of North America's fish and wildlife resources. The Association's governmental members include the fish and wildlife agencies of the states, provinces, and federal governments of the U.S., Canada, and Mexico. All 50 states are members. The Association has been a key organization in promoting sound resource management and strengthening federal, state, and private cooperation in protecting and managing fish and wildlife and their habitats in the public interest.

I will first discuss some key general issues and observations about wetlands and Section 404 of the Clean Water Act (CWA). Following that, I will share with you the Association's concerns about some of the Section 404 legislative proposals on the table.

The Association concurs with the focus of applying the Clean Water Act from a watershed perspective to more comprehensively address the conservation of water reliant and water influenced ecosystems, and also to address remedies at prevention rather than "end of the pipe" regulation of pollution. Wetland protection should thus be integrated with other water related resource management programs such as flood control, water supply, point and non-point source pollution control, and fish and wildlife habitat conservation. An ecosystem or watershed-based approach also allows for more prudent use of the flexibility in the Clean Water Act rather than as it may have been applied over the history of the Act.

The Association maintains that, generally, existing federal laws are effective in protecting wetlands when implemented and supported by good information, incentives, regulations, effective administration and effective enforcement. The current Clean Water Act's Section 404 jurisdictional umbrella, supported by state, local and private efforts, best addresses the needs of wetland-dependent fish and wildlife resources.

The Section 404 program thus represents an important tool for stemming loss of wetlands and the benefits they provide. We stress that it will be absolutely essential to retain the current 404 program in place and strengthen it where appropriate.

The Association and its member states are particularly concerned about the impacts and implications of wetlands regulation and management on living resources (fisheries, shellfish, wildlife and plants). These functions and values related to living resources must be given at least co-equal consideration with other wetlands functions and values, such as flood control, water supply, sediment abatement, etc.

The Association strongly advocates that any mitigation, restoration, and replacement of wetlands should replace all the significant functions and values of wetlands, rather than one specific function such as flood control, for example. Significant inter-functional trade-offs should not be allowed, e.g. flood abatement and sediment trap functions can be physically achieved without replacing wetland fish and wildlife values. The entire bundle of functions and values should be replicated as closely as possible in mitigation, restoration and replacement.

State fish and wildlife agencies have legal responsibility for the stewardship of resident fish and wildlife and share responsibility with the U.S. Fish and Wildlife Service for migratory birds. In addition to their benefits to migratory birds, wetlands are home to many non-migratory species such as fish, shellfish, reptiles and amphibians, small mammals, gallinaceous birds and plants. Therefore, any decisions regarding impacts on wetlands must include state fish and wildlife agencies in the process.

The states have been most effective in utilizing the Section 404 program when they are able to operate as full partners with federal agencies in the Program's federal regulatory overview, complemented with effective state laws. The Association believes that legislative recognition of the state fish and wildlife agency role and comments in permit decisions is necessary. The utility of the Fish and Wildlife Coordination Act lends itself to this recognition, but can be improved and enhanced. Currently, some comments from State fish and wildlife agencies are given serious consideration, while others are not. Providing only for the discretionary use of these comments must be changed.

The Association supports existing exemptions for normal farming and silviculture where operations are ongoing on former or prior converted wetlands. We recognize that there may need to be some clarification of the definitions of normal agricultural or normal silvicultural practices. However, the Association also supports retaining the permit requirement for a land-use change from normal agricultural or silvicultural use to another land use.

#### Problems with 404

Overall, the Association believes there has been a general decline in the strength of the program. Staffing in the Corps' District regulatory sections has been reduced, with a consequent reduction in emphasis upon the thoroughness of the individual permit program and an increasing reliance upon nationwide permits (NWP) and general permits. We have no objection to streamlining the 404 permit process so that projects, or classes of projects, which would have no significant impact upon wetlands or other waters of the United States, may be permitted with little delay. However, there are certain project authorizations contained within this program which would clearly result in impacts which are both individually and cumulatively adversely impacting wetlands.

As an example, the nationwide authorization of fill deposition to isolated waters of the United States is, we believe, in conflict with the stated rationale of the Nationwide Permit Program, i.e. that projects or classes of projects authorized in waters of the United States by Nationwide Permit shall not result in impacts which are, or could be, individually or cumulatively significant.

When those affected by 404 agree to work with the Corps of Engineers and wildlife agencies through early consultation, make a legitimate effort to avoid and minimize impacts, and to compensate for the effects of unavoidable impacts, the Section 404 program generally works efficiently and without delay.

However, when permittees are recalcitrant or unwilling to cooperate or side-step early consultation, refuse to minimize impacts, and/or refuse to effectively compensate for unavoidable impacts to public resources, the permit process becomes time consuming and often extremely confrontational. Such situations generally result in delays or outright refusal to grant permits. It is imperative that delays and confrontations such as this not be viewed as a failing of the Section 404 Permit Program. Rather, they are a natural outgrowth of the national concern for the maintenance of the "physical, chemical and biological integrity of the waters of the United States;" which is the basic rationale of the Federal Clean Water Act and its 404 Program. They are the very reason for the 404 Program and a full consultation process.

States Role in 404: Recommendations

As I indicated, state fish and wildlife agencies must be allowed to become full participants under Section 404 to ensure fish and wildlife needs are met. It is essential that the Corps of Engineers and EPA place "great weight" upon the recommendations of state fish and wildlife agencies with regard to 404-regulated activities affecting wetlands. This requirement would remove much of the expensive, time-consuming controversy surrounding many proposals adversely affecting wetlands. Given the resources to do the job, many states will be in a position to assume a greater responsibility in the implementation of the Clean Water Act.

There have been a number of suggestions that state agencies assume a greater role in the Section 404 Program. Such proposals have merit; however, any state assumption of the 404 Program must be subject to the following conditions:

1. In their role as co-equal partners with the Federal government in administration of Section 404, it is imperative that the states be involved at the front-end of the process: scoping, planning, drafting, and critiquing; not handed a product with instructions to implement. Under the latter scenario, the states become a testing ground for sometimes incompletely thought out programs. Under the former scenario, the states are true, participating, co-equal partners.
2. The states must be allowed to work cooperatively and collectively to assure that the needs of migratory waterfowl and resident wetland-dependent fish and wildlife resources are met;
3. Given the resources, states can work towards maintaining federal standards for permit approvals and conservation of the wetlands as intended by the Federal Clean Water Act. States may be authorized to implement additional state-authorized wetlands protection and restoration measures provided they meet the minimum standards and provisions of the Federal Act;
4. Costs to individual states for assumption of any part of the 404 Program must be fully covered by fees (e.g. by applicants for 404 permits) and other federal funds as necessary to provide full funding for state assumption. Funding must be adequate to ensure full compliance with all aspects of the program; and
5. There must be in place an effective federal oversight capability able to assure that state programs meet the minimum federal standards of Section 404.

### Legislative Proposals

The Association supports Section 404 as currently written in existing law, but recognizes that legislative improvements could be applied both to strengthen it and to improve its application and administration. In particular, the Association would support expansion of the application of Section 404 to other activities which degrade or destroy wetlands, such as draining, channelization, and excavation. These changes would strengthen the Act as the national means of protecting our invaluable and irreplaceable wetland resources.

The Association would also support legislative remedies to improve the administration of Section 404. We recognize that one of the major contributing factors to the public perception that the 404 program is in disarray is the uncertainties and confusion surrounding the permit process. A legislative articulation of the process, and the respective agencies' roles, along with a decision-making timetable, could serve a valid and useful purpose. We concur also that there may be some need for an administrative appeal process, but suggest that this proposal needs further deliberation before a process is codified.

Finally, there has to be adequate administrative support for the agencies involved in the permitting process. Staff levels and funding need to be realistically assessed, and remedies appropriately applied. A functioning, well-understood, public supported permitting program is absolutely vital to the success of Section 404.

Having said that, the Association would like to share its concerns over one of the leading House proposals regarding Section 404, i.e. H.R. 1330 by Congressman Hayes. This proposal would significantly weaken the wetland protection provisions of Section 404, and the Association urges you to resist any proposal that weakens important wetland protection.

As you are aware, H.R. 1330 does the following:

- 1) requires categorization of wetlands into three types;
- 2) declares the highest value (type A) to be a taking, and requires, at the discretion of the landowner, government acquisition in order to protect these wetlands;
- 3) it allows for no more than 20% of a political subdivision to be type A;

- 4) it provides for altering types B & C wetlands with the provision of compensatory mitigation, and eliminates the requirement for sequencing (avoid, minimize, then mitigate) consideration;
- 5) it requires the establishment of mitigation banking;
- 6) it narrows the definition of wetlands; and
- 7) removes the Environmental Protection Agency from the 404 Program.

While categorization of wetlands into types could serve several valid scientific purposes, the Association is seriously concerned that a ranking protocol will inevitably lead to a loss of "lesser value" wetlands. Indeed, the implications of H.R. 1330 are that, as a national policy, the United States espouses a continued loss of "low value" wetlands as long as compensatory mitigation is satisfied.

The Association wishes to point out several shortcomings of the categorization thesis. First, while we agree that not all wetlands are created equal, all wetlands do serve some function and have some value, although not always immediately apparent or readily discernible. An artificial values scheme, superimposed by legislative mandate, whether based on size, relative scarcity, function, or any or all of the above, may ignore the contribution of the subject wetland to the local ecosystem it is part of. Small, scarce wetlands can be just as critical to local populations of reptiles and amphibians, as are vast flooded areas to migratory waterfowl. And, the cumulative incremental loss of these small wetlands can be as devastating. Also, as a practical matter, it is not feasible to inventory and delineate wetlands by value categories.

The Association supports the development of an improved, efficient wetland evaluation protocol, based on value and function, to assist the professional biologist in the field, to aid in the decision making process, and to facilitate permit review and administration. We commend to you for consideration the Habitat Evaluation Procedures developed by the U.S. Fish and Wildlife Service, as a starting point in this endeavor. However, the Association remains concerned about simple legislative categories for regulatory purposes if it is applied by legislative fiat and absent the judgment of the professional biologist in the field.

Further, it should be pointed out that wetland mitigation is still as much an art as it is a science. As we stated previously, mitigation should replicate, as nearly as possible, all the functions and values of wetlands, including habitat for fish and wildlife. While it may, for example, be relatively easy to physically re-create flood abatement or sediment trap functions, these projects may have minimal value to fish and wildlife. Mitigation must not be a carte blanche license to alter, degrade or destroy existing natural wetlands.

Therefore, we conclude that, rather than eliminating the requirement for sequencing (avoid, minimize, then mitigate) as does H.R. 1330, the sequencing requirement should be legislatively assured.

Further, the Association is strongly opposed to a mandatory declaration that protecting the "highest value" wetlands is a constitutional taking, and requiring, at the discretion of the landowner, acquisition by the Federal Government. The Association is a strong supporter of private property owners and their rights. However, we also contend that the Constitution has protected private landowners from regulatory takings for over 200 years. The Association knows of no compelling reason to legislatively recognize this protection of private property clause of the U.S. Constitution. Additionally, the budget ramifications of such a measure would significantly frustrate the characterization of wetlands as Type A.

While the Association has not taken a formal position yet on mitigation banking, we continue to have serious reservations about the application of this concept. While we concur that there needs to be economic overtures to private landowners to facilitate stewardship of wetlands, and support landowner incentives (easements, tax incentive programs, transfer of development rights, etc.), we urge extreme caution in the assessment and development of a market-based mitigation banking program. There are many unanswered questions surrounding this proposal, all of which should be addressed prior to implementation. For example, could wetlands loss in Florida be mitigated in Texas? We believe mitigation can only be effective if it is done near where the loss occurs. Some states have developed mitigation banking programs already, and the Association urges Congress to examine those carefully and thoughtfully before advancing a legislatively mandated national program.

Finally, the Association supports the continuing role of the U.S. EPA in the permitting process, including limited veto authority. Veto authority has been used sparingly and judiciously in only 11 cases in the history of the program thus far. While we agree that administration of the process could use some improvements, radical surgery is not warranted.

The Association has also reviewed HR 350 from Congressman Edwards, and concludes that, of the extant legislative proposals relating to Section 404, this bill contains those features most likely to improve the use of Section 404 as a means of conserving the fish and wildlife resources supported by this nation's wetlands. It also addresses many of the Association's concerns as articulated herein in this statement.

The Association finds the section in HR 350 providing tax incentives to private landowners particularly attractive. We fully recognize the role of the private landowner in the conservation of fish and wildlife resources, and appreciate the fact that conservation objectives for fish and wildlife and their habitats cannot be met without the active involvement of the private landowner in this country.

On the issue of the National Academy of Sciences review of the wetlands delineation manual, the Association suggests that the NAS study will certainly contribute to our knowledge about wetlands and what may be necessary to conserve them. However, the issue of the regulation of jurisdictional wetlands remains one of public policy. Therefore, while the results of the NAS study will be useful, the deliberations over where to specifically delineate, and what are the implications of delineating wetlands for regulatory purposes, must remain in the arena of public debate.

In conclusion, the Association supports a legislative strengthening of Section 404 to include, under the permit umbrella, other activities which degrade or destroy wetlands. Further, we concur with clarifying and codifying the administrative process to improve the understanding of Section 404 implementation to the regulated community and the private landowner, and enhance its support among the general public.

#### Conclusion

The Section 404 program is one which has become a modern-day lightning rod, as those opposed to development feel it should be strengthened considerably and those in development feel it should be weakened. We maintain this speaks to the overall health of the Section 404 program.

While some improvements can be made to strengthen the program, Section 404 is the best protection of this Nation's valuable and vital wetland resources, and the fish and wildlife species they sustain. One also needs to remember the role of wetlands in boosting the economy of this country, from their contribution to commercial fishing and shellfishing, sport hunting, fishing, resident and non-resident tourism trade from birdwatchers, photographers, etc.

Undeniably, there are problems and weaknesses with the 404 program; to deny this would be naive and untruthful. However, it still represents the most effective and powerful tool that state fish and wildlife agencies have for the protection of our wetlands. These problems can be resolved. We believe the Congress is aware of 404's contribution to the maintenance of important wetlands and urge you to continue and strengthen this essential program for our nation's wetlands resources.

## Large Public Power Council

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### Members

Accounting Electric Authority  
 American Electric Power  
 Arizona Public Service  
 California Public Power Authority  
 Connecticut Public Service  
 Florida Public Service  
 Georgia Power Company  
 Illinois Public Service  
 Indiana Public Service  
 Iowa Electric Light and Power  
 Kansas Public Power Authority  
 Kentucky Public Service  
 Louisiana Public Service  
 Maine Public Service  
 Maryland Public Service  
 Massachusetts Public Service  
 Michigan Public Service  
 Minnesota Public Service  
 Missouri Public Service  
 Montana Public Service  
 Nebraska Public Power District  
 New York Power Authority  
 Omaha Public Power District  
 Oklahoma Electric Commission  
 Public Utilities District #1, Snohomish County  
 Puerto Rico Electric Power Authority  
 Sacramento Municipal Utility District  
 Salt River Project  
 Seattle City Light  
 South Carolina Public Service Santee Cooper  
 Tacoma Public Utility Light Division

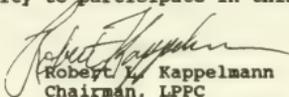
May 28, 1993

**Representative Douglas Applegate**  
**Chairman**  
**Subcommittee on Water Resources and**  
**Environment of the**  
**Public Works and Transportation Committee**

Dear Congressman Applegate:

Enclosed is the written statement of the Large Public Power Council. We request that it be included on the record of the Clean Water Act hearings that have been conducted by the Subcommittee on Water Resources and Environment.

Thank you for the opportunity to participate in this process.



Robert L. Kappelmann  
 Chairman, LPFC  
 Environmental Task Force

Enc.

TESTIMONY OF THE LARGE PUBLIC POWER COUNCIL  
BEFORE THE  
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT  
OF THE  
PUBLIC WORKS AND TRANSPORTATION COMMITTEE  
OF THE U.S. HOUSE OF REPRESENTATIVES

May 28, 1993

The Large Public Power Council (LPPC) thanks the Members of the Committee for the opportunity to provide testimony regarding the Clean Water Act. LPPC is an association consisting of 18 of the largest non-federal, publicly owned electric utilities in the nation.<sup>1/</sup> LPPC members are located in various states and the combined population within the LPPC service territory totals nearly 15 million consumers. Since member utilities are governed at the local level, their public policy concerns directly reflect the interests of the local community and ratepayers. LPPC members are committed to providing electrical power at a reasonable rate to the public in an environmentally sound and cost-effective manner.

LPPC formed an Environmental Task Force to help its members participate constructively in important federal environmental policy debates. LPPC members, as public entities, believe that they have a special responsibility to conduct their operations in an environmentally sound manner and to address effectively any environmental problems that may be associated with their facilities and operations. Recently, LPPC has contributed to the development of revisions to the Clean Air Act and LPPC desires to continue to work cooperatively with Congress as it reauthorizes the Clean Water Act.

The Clean Water Act is "considered by many experts to be one of the best federal environmental statutes."<sup>2/</sup> LPPC believes that the current program, especially as it relates

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<sup>1/</sup> LPPC members include: Jacksonville Electric Authority; Memphis Light, Gas and Water Division; Knoxville Utilities Board; Municipal Electric Authority of Georgia; Lower Colorado River Authority; Sacramento Municipal Utility District; Tacoma Public Utilities; Los Angeles Department of Water and Power; New York Power Authority; Omaha Public Power District; Nebraska Public Power District; Public Utilities District #1, Snohomish County, Washington; Salt River Project; Seattle City Light; Orlando Utilities Commission; South Carolina Public Service Authority; City of Austin; and Puerto Rico Electric Power.

<sup>2/</sup> Testimony of Carol M. Browner, Administrator, U.S. Environmental Protection Agency, Before the Subcommittee on Water Resources and Environment of the Committee

(continued...)

to the control of thermal discharges, has worked well. For this reason, LPPC will not broadly address all the relevant reauthorization issues in this testimony. Instead, LPPC will limit these comments to the issue of thermal discharges which was raised in the Senate during the 102nd Congress. LPPC will address other relevant issues in response to future proposals as they arise during the reauthorization process.

In the last Congress, Senator Baucus introduced S.1081, a comprehensive bill reforming many provisions of the Clean Water Act (CWA). S.1081 and the subsequent majority staff draft would have repealed Section 316(a) which allows for site-specific alternative effluent limitations regulating thermal discharge where state or Environmental Protection Agency (EPA) effluent limitations are more stringent than necessary to assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife in and on the receiving water body. It is LPPC's position that such a repeal is not justified. Studies conducted thus far show little evidence of environmental costs associated with thermal discharges currently regulated under Section 316(a) of the Clean Water Act.<sup>3/</sup> LPPC is concerned that the questionable benefits of repealing Section 316(a) do not justify the resulting burdensome costs.

Thermal effluent results from the production of electricity. Approximately 80% of the electricity generated in the United States is produced by steam-driven turbine generators.<sup>4/</sup> Typically, nuclear or fossil fuel is used to heat water and create steam which is converted to mechanical energy in turbines that drive the electrical generators. The exhaust steam from the turbines passes through a condenser where it is cooled by cooling

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<sup>2/</sup> (...continued)

on Public Works and Transportation, U.S. House of Representatives, May 5, 1993 at p. 2 [EPA Testimony].

<sup>3/</sup> EPA found that information provided by EPA Regions and permitted facilities did not reveal widespread environmental problems resulting from the discharge of thermal effluent from power plants. Review of Water Quality Standards, Permit Limitations, and Variances for Thermal Discharges at Power Plants, prepared by the Enforcement Division of the Office of Wastewater Enforcement & Compliance and Wade Miller Associates, Inc., for the U.S. Environmental Protection Agency (October, 1992) [EPA Study]. EPA concluded from it's study that "there is only a small likelihood of significant thermal impacts occurring at the nation's power plants operating under Section 316(a) variances." Id. at p. 8.

<sup>4/</sup> Evaluation of the Potential Costs and Environmental Impacts of Retrofitting Cooling Towers on Existing Steam Electric Power Plants that Have Obtained Variances Under § 316(a) of the Clean Water Act, prepared by Stone & Webster for the Edison Electric Institute (1992) at p. 6 [Stone and Webster Study]. The discussion of electricity generation is taken from this study.

water. The waste heat that must be removed from the steam during the condensation process is an unavoidable by-product of the plant's thermodynamic cycle.

The condensing cooling water may be returned to the receiving water source. This method is called the open-cycle or "once-through" cooling method. In a closed-cycle system, the condensing cooling water is treated in a cooling tower, lake or pond and then routed back to the condensers. The temperature of the water returning to the condenser in closed-cycle systems is usually warmer than the water withdrawn for once-through cooling. This results in increased turbine backpressure and, consequently, in less efficient generation because more fuel is required to produce the same amount of power.<sup>51</sup> Depending on site-specific needs, LPPC members use both "once-through" cooling as well as cooling towers and cooling ponds at their facilities.

#### The Section 316(a) Program for Regulating Thermal Discharge

Section 316(a)<sup>61</sup> of the CWA does not provide for a waiver of control requirements. Rather, it provides for case-by-case determinations of site-specific alternative effluent limitations regulating thermal discharges where applicants can demonstrate that state or EPA effluent limitations for the control of thermal discharges are more stringent than necessary to protect the indigenous species in and on the receiving body of water.

Thermal discharges are subject to the more stringent of either technology- or water quality-based effluent limitations. In 1974, EPA established a "no discharge" best available technology requirement for new steam electric power plant generated heat and required certain existing generating plants to backfit closed-cycle cooling systems.<sup>71</sup> However, the technology-based thermal effluent limitations guidelines were remanded back to EPA in Appalachian Power Co. v. Train.<sup>81</sup> Ever since the Appalachian Power case, the EPA has

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<sup>51</sup> Impact on the Steam Electric Power Industry of Deletion of § 316(a) of the Clean Water Act, prepared by John A. Veil of the Argonne National Laboratory for the Office of Environmental Analysis, United States Department of Justice (July 1992) [Argonne Study] at p. 9 of Phase I.

<sup>61</sup> 33 U.S.C. § 1326.

<sup>71</sup> 40 C.F.R. Part 423, 39 Fed. Reg. 36186 et seq. (1974) as amended at 40 Fed. Reg. 7095 (1975), 40 C.F.R. Part 122, 39 Fed. Reg. 36176 et seq. (1974). There were limited exemptions based on land availability, salt drift impacts and interference with commercial aviation.

<sup>81</sup> 545 F.2d 1351 (4th Cir. 1976), modified by Appalachian Power Co. v. Train, 9 Env't Rep. Cas. (BNA) 1274 (4th Cir. 1976) petit. den. Appalachian Power Co. v. Train, 620

(continued...)

abandoned its efforts to promulgate national best available technology regulations for steam electric power plants and has provided electric utilities with flexibility by addressing the issue on a case-by-case basis, according to the state or EPA permit writer's best professional judgment. This has resulted in unique thermal effluent limitations which are applicable to each individual facility and are based upon the particular circumstances of that facility and the receiving water body. Thermal limitations are generally developed based on water quality standards which have been designated by the state to preserve and protect its water bodies. The actual thermal limitations and monitoring requirements are specified in individual National Pollution Discharge Elimination System Program (NPDES) permits.

The history of Section 316(a) indicates that no significant environmental harm has resulted from its implementation.<sup>97</sup> According to an independent study prepared for the Department of Energy, the Argonne Study,<sup>100</sup> there is no evidence that the national program for granting Section 316(a) alternative limitations has resulted in significant environmental problems. However, recent studies conclude that a repeal of Section 316(a) would not only have severe economic impacts but would also have negative impacts on the environment.

While little evidence has been generated to substantiate that the 316(a) alternative effluent limitation program has caused environmental harm, there has been much documentation to support continuance of the alternative limitations. During the permit review period, the applicant must demonstrate that alternative thermal limitations will provide the necessary protection for a balanced, indigenous population of shellfish, fish and wildlife in and on the body of receiving water. The demonstration must be approved by the

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<sup>97</sup> (...continued)

F 2d 1040 (4th Cir. 1980). The decision found the regulations flawed because of a failure to explain technological limitations and a failure to conduct an incremental cost-benefit analysis relating expected benefits to costs of control.

<sup>99</sup> The EPA Study found that for the vast majority of facilities with alternative effluent limitations under Section 316(a), impacts from thermal effluent have not been large or permanent. EPA Study at p. 18. EPA also found that the few isolated problems it identified were largely a result of administrative error on the part of the permitting agency. LPPC submits that it would be counterproductive to repeal Section 316(a) as a response to a small number of problems that are not reflective of the general success of the program. Any isolated problems should be dealt with on a case-by-case basis and LPPC supports EPA's recommendation calling for the provision of training to EPA regional and state permit writers.

<sup>100</sup> Impact on the Steam Electric Power Industry of Deletion of Section 316(a) of the Clean Water Act, prepared by John A. Veil of the Argonne National Laboratory for the Office of Environmental Analysis, United States Department of Energy (July 1992) [Argonne Study]. All cost estimates cited here are taken from this study unless otherwise noted.

regulatory agencies. Typically, information is gathered relating to the physical, thermal and biological characteristics of the receiving water (including data on plankton, plants, microinvertebrates and fish).<sup>11/</sup> Alternative limitations must be renewed every five years.

The procedures discussed above adequately test the merits of the alternative limitations. An additional benefit of the extensive and costly studies that are required to be performed is that the aquatic populations in the local water bodies are better understood. Because of Section 316(a), there is abundant site-specific data that has been gathered for more than two decades.

LPPC members who have obtained Section 316(a) alternative effluent limitations have had temperature limitations and mixing zone restrictions imposed upon their permits. Additionally, these members have gathered data and performed site specific studies in support of such limitations and have performed the monitoring studies required by their permits. The studies performed involved thermal mixing zones, ecological impacts, impacts on aquatic life, plume modeling and thermal impact assessment. The results of these studies indicate no significant adverse impacts.<sup>12/</sup>

LPPC is not opposed to review of the Clean Water Act provisions which regulate point sources and the operations of utilities. LPPC members are prepared to make any cost-effective change in operations that is found to be necessary and appropriate. Thus far, however, studies concerning the issue of a repeal of the provision for thermal alternative effluent limitations do not support a change in current Section 316(a) procedures.

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<sup>11/</sup> EPA Study at p. 14.

<sup>12/</sup> For example, the Jacksonville Electric Authority performed monitoring studies as a requirement of its NPDES permits for its Northside Generating Station. Northside Generating Station NPDES Permit Biomonitoring Program Final Report, prepared by EnviroSphere Company for the Jacksonville Electric Authority (November 1981). The two year study resulted in a finding of no significant effect of the thermal discharge of the Northside Generating Station on the ecological community of the St. Johns River. The Department of Water and Power of the City of Los Angeles also conducted monitoring studies required by its NPDES permit. National Pollutant Discharge Elimination System 1992 Receiving Water Monitoring Report, Harbor Generating Station, Los Angeles County, California, prepared by MBC Applied Environmental Sciences for the Department of Water and Power, Los Angeles (1992 Survey). The results of the 1992 studies indicated that the beneficial uses of the receiving waters in Los Angeles Harbor near the Harbor Generating Station are being protected.

### Economic Consequences of the Repeal of Section 316(a)

Approximately 32% of the total U.S. steam electric generating capacity (including nuclear or fossil fueled utilities) would be affected if Section 316(a) were repealed.<sup>13/</sup> While there is no clear evidence of the benefits that would result if Section 316(a) were repealed, there is clear evidence indicating that removal of thermal alternative limitations will have adverse economic and environmental costs.<sup>14/</sup>

The Argonne Study, performed for the Department of Energy, examined the impact on the power industry of losing the 316(a) alternative effluent limitation provision. Cost estimates were generated by obtaining estimates from a number of power companies in different areas of the country, subjecting the results to a regression analysis, and multiplying the cost rates by the total affected kilowatts in order to arrive at a national estimate. Phase I of the Argonne Study examined the alternatives that would be available to power plants currently operating under Section 316(a) if the Section were repealed. It found that the vast majority of affected plants would retrofit existing once-through cooling systems with cooling towers. The national capital costs alone for retrofitting cooling towers was estimated to be in the range of \$22.7 billion to \$24.4 billion in 1992 dollars.

Phase II of the Argonne Study estimated the cost for conversion to cooling towers in terms of lost energy. It found that conversion to cooling towers would lower energy output due to increased turbine backpressure and increased auxiliary power demands and would create an "energy penalty." The energy penalty for fossil-fuel plants would range from 1.1 to 4.6% and for nuclear plants would range from 1.0 to 5.8%. The power industry would need to replace an estimated 14.7 to 23.7 billion kilowatt hours of power. The Argonne Study estimated that the national cost of replacing this lost capacity would be \$420 million to \$670 million annually. Over a twenty year period the national cost would be \$11.4 billion to \$18.4 billion. In addition, some power companies would need to construct replacement generating capacity. The national estimated cost for this new capacity would be \$1.4 to \$5.3 billion in 1992 dollars.

The Argonne Study concluded that, if Section 316(a) were stricken from a reauthorized Clean Water Act, the total estimated national costs to the power industry would be in the range of \$32.5 billion to \$52.6 billion in 1992 dollars. This range represents the

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<sup>13/</sup> The Stone and Webster Study found that approximately 32% of the U.S. generating capacity, with a total output of 189,000 MW, has applied for and received alternative limitations under Section 316(a). Stone and Webster Study at p. 5. EPA found that approximately one third of the U.S. power plants have alternative effluent limitations under Section 316(a). EPA Study at p. ES-1.

<sup>14/</sup> Stone and Webster found that the national cost of repealing Section 316(a) would be \$41 billion in 1992 dollars. Stone and Webster Study at p. 3.

sum of the capital costs for retrofitting cooling towers, building new generating units and the increased fuel costs for a twenty year period. These huge cost increases would be passed on to the ratepayers. In some cases, the high cost of replacing cooling systems would force some utilities to close down their generating stations.

LPPC has recently gathered data relating to the members of the Large Public Power Council in an effort to assess the potential impact of a repeal of Section 316(a) on its membership. This information indicates that a majority of LPPC members would be substantially affected if their site-specific alternative effluent limitations for thermal discharges under Section 316(a) were eliminated. As predicted by the Argonne Study, LPPC members indicated that, if Section 316(a) were repealed, they would be likely to install a recycling system using a mechanical or natural draft wet cooling tower.

The estimated costs associated with retrofitting cooling towers were substantial. One LPPC member, the Jacksonville Electric Authority, estimated that retrofit capital and life of the unit operating and maintenance costs at its plants would be approximately \$130 million. Most LPPC members estimated initial capital costs for installation of cooling towers to be in the range of \$10,000,000 to \$161,894,000, depending largely on the number and size of facilities that would require retrofitting. Estimated operating and maintenance costs ranged from \$2.0 million to \$5.1 million annually. Estimated annual costs of lost generation ranged from \$1,126,286 in one instance to \$4,000,000.<sup>15/</sup>

#### Environmental and Other Consequences Resulting from a Repeal of Section 316(a)

The Argonne Study stated that the Section 316(a) alternative thermal effluent limitations program has not caused significant environmental degradation. In fact, the study did not find any significant benefit associated with the repeal of Section 316(a). Instead, it found that repeal of Section 316(a) would result in potential adverse environmental impacts associated both with the operation and installation of cooling towers. As discussed above, repealing 316(a) would force utilities to retrofit cooling towers, thus creating an "energy penalty." Consequently, the power industry would need to consume more fuel, resulting in an estimated 9 million tons per year of increased carbon dioxide emissions. LPPC members listed additional emissions of air pollutants as well as water treatment chemicals as resulting environmental costs of replacement of the once-through cooling method.

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<sup>15/</sup> The \$4 million figure was calculated by estimating the lost generation caused by forced outages every two months which would be necessary to manually clean cooling water tunnels that would otherwise have received heat treatment to control macro invertebrate growth. A similar figure was arrived at by a member who calculated the lost steam turbine capability due to the higher backpressure resulting from the warmer cooling water.

The Argonne Study found that cooling towers would result in increased evaporation of water at an estimated loss of 1.5 million to 2.8 million gallons of water per minute. 1.5 million gallons per minute is enough water to supply the daily domestic needs of approximately 25 million people. LPPC members also anticipated that use of a cooling tower would increase their consumption of water. One member estimated that an additional 20,700 gallons per minute would be used. The increased consumption of water would be especially problematic for states experiencing water shortages.

The Argonne Study found that construction of new generating units could impact the environment through changing land use, runoff characteristics and wildlife habitat. Land use restrictions may preclude the building of cooling towers because of the location of nearby wetlands or natural areas. Land may not be available near the facility because of the proximity of airports, highways or residential areas that could be disturbed by the cooling towers. Cooling towers can cause fogging or freezing plumes (which can cause visibility and safety problems), salt drift, noise and generally disagreeable aesthetics. LPPC members also mentioned land use restrictions and land availability as additional potential obstacles to the installation of cooling towers.

Another obstacle to replacing the current cooling system mentioned by LPPC members included the age of the facility. Several members indicated that the cost of retrofitting older facilities with cooling towers may not be cost-effective and, as a result, some of these facilities would be put out of service.

#### **Conclusion**

Repeal of Section 316(a) of the Clean Water Act would result in severe economic costs to utilities and ratepayers with no corresponding benefit. Not only has there been a lack of historical environmental problems associated with the granting of alternative limitations under Section 316(a), but the Argonne Study has found that removal of Section 316(a) would be likely to have negative environmental impacts. An additional 9 million tons per year of carbon dioxide emissions would result from increased fuel consumption caused by the operation of cooling towers. Cooling towers would increase the consumption of water by at least 1.5 million gallons of water per minute, enough water to supply the daily domestic needs of approximately 25 million people. Certainly, any action that serves to further pollute our nation's air and deplete our water resources is not beneficial to our environment.

If the Committee finds that improvements to the Section 316(a) program are called for, LPPC members, as responsible utilities and water resources managers, would like to assist the Committee in finding the appropriate solutions. However, in light of all the reasons set forth above, LPPC urges the Committee not to recommend the repeal of Section 316(a) of the Clean Water Act.

*For Record***NATIONAL ASSOCIATION OF ATTORNEYS GENERAL****Adopted****Spring Meeting  
March 28-30  
Washington, D.C.****RESOLUTION****URGING THE CONGRESS TO CLARIFY THE WAIVER OF FEDERAL SOVEREIGN IMMUNITY UNDER THE CLEAN WATER ACT**

**WHEREAS**, a significant number of the most dangerous sources of water pollution in the United States that pose a significant threat to public health and the environment are located at federal facilities; and

**WHEREAS**, federal facilities are among the worst violators of federal and state water pollution laws; and

**WHEREAS**, Executive Order 12088 requires all federal agencies to comply with all applicable pollution control standards; and

**WHEREAS**, the states have experienced significant problems in bringing federal facilities into compliance with federal and state water pollution laws because the federal facilities refuse to acknowledge state regulatory authority over their facilities; and

**WHEREAS**, disputes over state environmental authority at federal facilities has caused costly, time-consuming and acrimonious litigation between the states and the federal agencies; and

**WHEREAS**, the U.S. Environmental Protection Agency's and the states' lack of clear enforcement authority has eroded the public confidence in the federal government's willingness and ability to address the serious water pollution problems at the federal facilities; and

**WHEREAS**, the states' role in enforcing federal and state water pollution laws against recalcitrant federal agencies has become more important because of the U.S. Department of Justice contention that the Constitution prohibits EPA from enforcing water pollution laws at federal facilities and from imposing sanctions against federal agencies; and

**WHEREAS**, federal agencies must be subject to the same sanctions as private industry, states, and local governments for violations of federal and state water pollution laws to deter violations of and ensure compliance with these laws; and

**WHEREAS**, the U.S. House of Representatives is considering HR 340, which would clarify the federal sovereign immunity waiver under the Clean Water Act;

**NOW, THEREFORE, BE IT RESOLVED THAT THE NATIONAL ASSOCIATION OF ATTORNEYS GENERAL:**

1) urges Congress to adopt H.R. 340 or similar legislation which would:

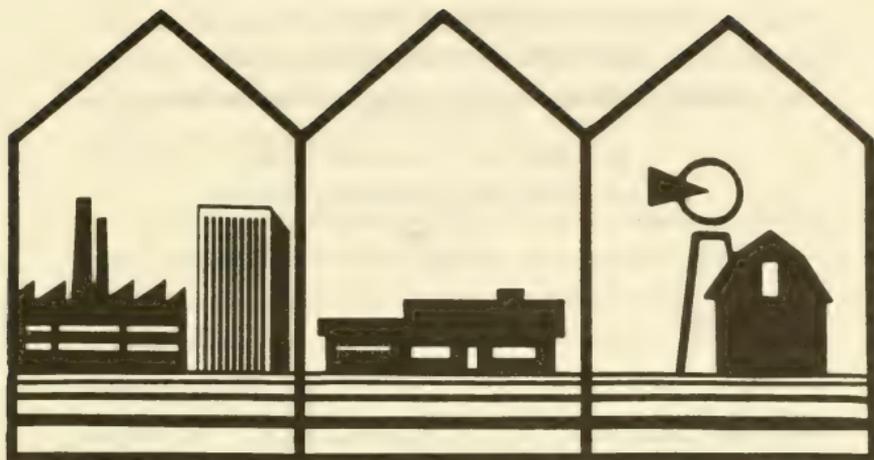
a) provide clear authority to federal, state and local officials, to enforce water pollution programs at federal facilities;

b) subject federal agencies and federal facilities to the same accountability, procedural, and substantive enforcement provisions and reasonable service charges that apply to state and local governments and private industry; and

c) enhance proper water pollution control practices at federal facilities in the future by ensuring that federal agencies comply with federal, state and local water pollution laws; and

2) authorizes the NAAG Environment Legislative Subcommittee to represent the views of the Association on this matter before the Congress and federal agencies.

3) authorizes the Executive Director and General Counsel to transmit this resolution to the President and EPA Administrator Carol Browner and appropriate members of her staff; Secretary Les Aspin of the Department of Defense; Secretary Hazel O'Leary of the Department of Energy; Congress; and other interested associations.



Statement of the  
NATIONAL ASSOCIATION OF REALTORS®

*The Voice for Real Estate™*

**THE WORLD'S LARGEST TRADE ASSOCIATION**

**THE NATIONAL ASSOCIATION OF REALTORS®  
STATEMENT FOR THE RECORD ON  
THE REAUTHORIZATION OF THE CLEAN WATER ACT  
SUBMITTED TO  
THE HOUSE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION  
SUBCOMMITTEE ON WATER RESOURCES  
MAY, 1993**

STATEMENT OF  
THE NATIONAL ASSOCIATION OF REALTORS®  
SUBMITTED TO THE HOUSE COMMITTEE ON PUBLIC WORKS AND  
TRANSPORTATION  
SUBCOMMITTEE ON WATER RESOURCES  
THE REAUTHORIZATION OF THE CLEAN WATER ACT  
MAY, 1993

INTRODUCTION

Thank you for the opportunity to submit the NATIONAL ASSOCIATION OF REALTORS® comments for the record, on the federal Clean Water Act. The NATIONAL ASSOCIATION OF REALTORS®, comprised of nearly 750,000 members involved in all aspects of the real estate industry, has a keen interest in the Clean Water Act.

The association believes that development should be encouraged, as it is a stimulus to the economy, increases the tax base, provides places to live and work, and offers quality of life opportunities that would not otherwise exist. However, we also realize the responsibility we have to educate and work with local, state, and federal government officials to develop responsible growth planning that is equitable and considers the divergent needs of transportation, housing, agriculture, commercial, industrial, and environmental concerns. With that in mind, it is very important to note that our nation will not grow without the proper highway and water infrastructure.

From the start, we cannot stress enough the need to rectify the current wetlands dilemma. The association strongly supports, H.R. 1330, introduced by Reps. James Hayes, (D-LA) and Tom Ridge (R-PA), which would provide for classification of wetlands prioritized by function and value.

set up a "one-stop shopping" permit system, allow for mitigation banking and provide for public comment and notification of wetlands designations to affected property owners. And most importantly, it provides for just compensation to property owners when their land is taken as the result of a wetlands permit denial.

The NATIONAL ASSOCIATION OF REALTORS® supports passage of legislation which includes: a standardized wetlands definition applicable to all federal agencies and which requires reasonable and sufficient evidence of each wetland indicator (hydrophytic vegetation, hydric soils and hydrology); a clearly defined, expeditious and streamlined permitting process which allows those seeking permits to make application to and receive a response from a single federal agency; the creation of a priority wetlands ranking system, which provides for protection of ecologically significant wetlands but allows permits to be issued in the case of wetlands of lesser environmental importance; a requirement that all local authorities and affected property owners be notified of wetlands inventories to be conducted in their states and of proposed wetland jurisdictional determinations; and the use of wetlands mitigation banking as an alternative to the prohibition of use of wetlands.

Similarly, water resource management which seeks to protect and enhance recreation and aquatic life must also consider residential, commercial, industrial, agricultural and municipal usage. Federal water pollution control programs must balance the need to preserve the ecological integrity of water bodies with the economic interests of landowners and industry and with existing state law and interstate water compacts which have traditionally regulated water usage.

NAR COMMENTS AS THEY RELATE TO IDENTIFYING AND DELINEATING  
JURISDICTIONAL WETLANDS

The NATIONAL ASSOCIATION OF REALTORS® understands that both the U.S. Corps of Engineers and the U.S. Environmental Protection Agency, (EPA) are currently using the 1987 Manual to identify and delineate wetlands. With that in mind, the following comments are directed toward implementation of a program that will address our nation's environmental and economic needs with regard to wetlands, as defined by the National Academy of Sciences study.

As the industry which assists in making the American dream of owning a home become a reality, we are aware of the critical role of environment in preserving America's quality of life, and we want to make certain that those lands that are truly wetlands continue to remain as such. Wetlands not only play a major role in our environment, but they are also an incentive utilized by our membership because they increase property values and encourage and enhance both the ownership of environmentally sensitive lands as well as stewardship of these important lands for our nation.

NAR RECOMMENDS THAT HYDROPHYTIC VEGETATION, HYDRIC SOILS  
AND HYDROLOGY BE UTILIZED WHEN DELINEATING A WETLAND

The association supports a policy of adoption of a standardized definition for wetlands identification that would require the affirmative presence of all three customary

parameters (hydrophytic vegetation, hydric soils and hydrology) in delineation of a wetland. While these parameters have been listed in the past, wetlands have often been identified by identifying the presence of one of the three parameters and inferring the presence of the other two.

NAR BELIEVES THAT LAND MUST NOT BE PRESUMED TO BE A WETLAND. IT MUST BE PROVEN TO BE A WETLAND

Previously, wetlands delineations were made using the presumption that land is a wetland, unless it can be proven otherwise. With that in mind, we believe that the 1987 Manual, is correct in that, it requires that the land is presumed to be a non-wetland until it is proven that the land in question is indeed a wetland.

NAR IS SUPPORTIVE OF WATER BEING PRESENT IN ORDER TO DELINEATE A WETLAND

It is imperative that if land is to be delineated as a wetland, strong evidence of water must be present.

NAR CONSIDERS PUBLIC INPUT AND AN APPEAL PROCESS IMPERATIVE IN DETERMINING THE PROPER WAY TO DELINEATE A WETLAND

It is crucial that public input be gathered on any and all issues that determine the overall land use policy for the nation. In addition to comments, we would recommend

that the government seek public input through public meetings, open forums, and utilizing groups that may have had first hand knowledge in the development of projects having to do with the issue at hand. The manual which will determine the way land is delineated is a major concern of the REALTORS®.

**GENERAL COMMENTS AND RECOMMENDATIONS NEEDED FOR A SOLUTION TO THE WETLANDS DILEMMA**

o NAR is supportive of a clearly defined permitting process. To achieve this we urge adoption of a "one-stop shopping" concept, allowing property to owners to apply to and receive a permit to use wetlands from a single, federal agency. While the proposed changes have made great strides to correct the problems associated with the 1989 Manual, we are still supportive of allowing one agency to administer the program. Regardless of whether or not our recommendation is adopted, we would urge that the government consider developing a checklist or booklet from the approving governmental authority outlining what permits are necessary, what the purposes are, who does the processing, what the processing time is and the estimated fee schedule.

o NAR supports a policy which will provide for a classification system for wetlands. We agree that the most environmentally sensitive and useful wetlands should be protected because they serve vital ecological functions, such as flood control, habitat spawning areas. . . and the like. However, the current federal policy lacks the flexibility to differentiate between vital ecological wetlands and lands which serve a

- marginal environmental purpose.
- o NAR is supportive of a legislative/regulatory solution which would include some form of prioritization or ranking so that we can protect the most valuable of our wetlands, while allowing private landowners of less ecologically sensitive properties the right to develop lands as they see fit, within local planning and zoning parameters.
  - o NAR believes that man-made wet areas, such as ditches, culverts, ponds, waste lagoons, and the like that were intentionally or accidentally created where non-wetlands once existed should be exempt from wetlands regulation.
  - o NAR recommends that all governmental entities involved and private property owners be notified of any wetlands delineations. In addition, we believe that a regulatory process needs to be implemented allowing citizens the right to challenge the appropriateness of wetlands delineations.
  - o NAR recognizes the vital necessity of professional competency to meet the challenges of real estate practice in an increasingly sophisticated and complex society. Professionalism in real estate through education and training is one of the primary objectives of the association. We encourage the government to work with our association to promote public awareness of the value of wetlands. In turn, with our many local boards and state associations, the REALTORS® can provide the government with information as to how the regulation will impact real property owners. With that in mind, we would also like to recommend that the government,

as well as the EPA and the U.S. Army Corps of Engineers, perform field testing in areas of the country where our membership can be of service to the government.

#### PRIVATE PROPERTY RIGHTS

NAR's concerns extend beyond the immediate interests of the real estate industry. Because over seventy percent of our nation's wetlands are owned by private citizens, we also wish to direct attention to the larger issue of protecting private property rights.

The NATIONAL ASSOCIATION OF REALTORS® has worked for years to encourage a balanced approach to environmental protection that accommodates the important needs for both conservation as well as economic opportunity and vitality. To balance the efforts of government to serve the public well being by controlling pollution and protecting natural resources with the economic and property rights secured by the Constitution, we believe that the cost of the benefits to the general public achieved by such regulation should be borne by the beneficiaries--the general public. We oppose those aspects of environmental and natural resource legislation that amount to uncompensated condemnation of private property through government action. It is essential that the rights of private property owners be fully recognized in local, state, and federal programs and laws.

In this context, the NATIONAL ASSOCIATION OF REALTORS® believes that Federal wetlands regulation should expressly recognize that the application of wetlands permitting requirements may result in a "taking" of property within the meaning of the Fifth Amendment's Just Compensation clause, which requires compensation to be paid to the affected property owner. This is evident from decisions of the United States Claims Court in Loveladies Harbor Inc. v. the United

States, Florida Rock Industries v. United States, and Formanek v. United States. In each of these cases the court held the Army Corps of Engineers' denial of a permit to place fill on wetlands so affected the owner's property interest as to result in a "taking", and awarded the just compensation mandated by the Fifth Amendment. Indeed, the plaintiff in the Loveladies case has been involved in litigation for eleven years, and his travails continue as that case awaits decision by the Court of Appeals for the Federal Circuit. Moreover, the Supreme Court's recent decision in Lucas v. South Carolina Coastal Council reaffirmed the vitality of the protection of property rights provided by the Fifth Amendment by establishing what the Court termed a "categorical" rule requiring compensation when all economically viable use of a property is eliminated. The Court also made it clear that compensation is a Constitutional requirement except in those rare cases where regulation merely implements limitations on use of the property already imposed by the common law of nuisance or property.

To prevent other property owners from similarly becoming embroiled in years of litigation and spending the huge sums of money necessary to do so, federal wetlands regulation should require the regulating agency to expressly consider the implications of permit denials on private property rights. In particular, the law should require that any wholesale denial of use be carefully analyzed to determine the extent of compensation to be provided to the affected property owner. In a few cases, such analysis may determine that the action falls within the very narrowly conscribed circumstances suggested by Lucas, where the government need not provide compensation because the proposed use would constitute a common law nuisance. Perhaps just as importantly, federal wetlands regulatory legislation should require that complete denials of use be clearly justified and imposed only where the affected area is of such extreme ecological significance and vulnerability as to justify such draconian action. Regulation should require the regulator to permit beneficial uses of wetlands which

do not present a real and significant threat to substantial public interests. Preservation of important wetlands can also be accomplished by providing financial incentives for property owners to leave wetlands on their land undisturbed. This would also relieve builders, for example, from unfairly bearing the cost of environmental improvement or protection, which cost is in any event generally passed on to homebuyers.

The NATIONAL ASSOCIATION OF REALTORS® strongly believes that federal wetlands regulation of this nature is necessary to preserve the fundamental right of all private property owners, working through local governments, to determine and enjoy the highest and best use of their land. To be sure, NAR recognizes that the application of some restrictions on property use serves the interests of all, but NAR believe that all citizens have the right to acquire and use real property with the confidence and certainty that the value of their property will not be unduly diminished or jeopardized by governmental action at any level without the owner's express consent.

It is important to note that our Association supports H.R. 385, which was introduced by Rep. Gerald Solomon. This legislation requires federal agencies to establish procedures to assess whether a pending rule or regulation may result in the taking of private property. It would also require agencies to avoid takings wherever possible.

#### WATER RIGHTS

The central question to a debate of this issue is simply stated: What is the proper federal role in water resource management? The NATIONAL ASSOCIATION OF REALTORS® opposes water allocation legislation at the federal level which supersedes state law and interstate

water compacts and which may result in "takings" of water property rights without compensation.

Water demands vary from state to state. Congress has traditionally deferred to the responsibility and expertise of the states for the allocation, administration, and use of water for residential, commercial, industrial, agricultural, municipal, recreational and aquatic life purposes. As a result, states have chosen their own water law systems in order to secure a stable and clean water supply to provide for sufficient food, drinking water, economic productivity, recreation and aquatic life. An extensive intrastate and interstate water supply infrastructure has been established based upon these state water law principles.

We are concerned that federal initiatives to expand existing water pollution control programs in order to protect the ecological integrity of water bodies may go far beyond what is necessary to meet water quality needs. Overly restrictive requirements might impose economic burdens on landowners and industry - perhaps without significantly improving water quality - and in the process erode traditional state authority to determine land and water usage.

We are also concerned about excessive federal regulatory enforcement of the Clean Water Act which goes beyond the spirit and intent of the law. Overzealousness by the EPA with regard to more stringent standards and enforcement have made it increasingly difficult for utility providers (i.e., towns and private utility companies) to reach the required standards, leading to excessively high water, sewer and impact fees and a general "no growth" climate. Farmers are prohibited from using and tending their land with proper farming, draining, and - in some cases - dredging procedures. Property owners are prevented from reclaiming land that is washed away by storms. Regulatory standards and enforcement must be reasonable in order to

accommodate economic growth and allow property owners to reasonably use their land.

### INFRASTRUCTURE

Throughout his campaign, President Clinton stressed the need to increase spending on infrastructure as a means to stimulate the economy and help improve the productivity of the American worker. In recent years, the EPA has been tightening water quality standards at a time when financing for state and local governments to comply with the tightened regulations has been cut. Local communities have increasingly been raising the water bills of existing customers and imposing impact fees on developers, making them foot the bill for new water/sewer hookups. The developers, in turn, tack the fees on to the cost of new housing, making it less affordable. The president recognized this dilemma and has proposed a new Safe Drinking Water revolving fund to help communities address these fundamental public health needs.

The EPA has estimated that we would have to spend over \$150 billion over the next twenty years just to meet current requirements. Yet, as you know, federal funding of sewer construction is scheduled to expire completely in FY1994. At that time, all funding of new sewer construction will have to come from states and local governments, many of which are in worse financial shape than the federal government. Unavailability of financing for construction of new systems or rehabilitation of older sewer systems to expand their capacity will have a serious impact on new home construction and on the affordability of existing housing.

The NATIONAL ASSOCIATION OF REALTORS® supports the resuscitation of the federal construction grants program for sewer construction and continued federal capitalization of

existing State Revolving Loan Funds (SRFs) for sewer construction beyond the proposed expiration of funding in fiscal year 1994. We also support the easing of tax and regulatory barriers to facilitate the use of public/private partnerships to fund water supply and sewer construction projects.

### CONCLUSION

NAR believes properly conducted programs of land preservation and historic preservation which attempt to protect aquifers, agricultural lands, wetlands, scenic vistas, natural areas, historic properties and open space may have a positive effect on the quality of life in towns, counties and municipalities. However, in establishing land use laws and regulations for the purpose of protecting these resources, the cost of the benefits of these programs to enhance our nation's resources should be paid for by the general public. Therefore, we believe that financial incentives should be developed for the protection of wetlands.

Current government real property acquisition practices have resulted in excessive amounts of private property being placed in the government estate. Federal property acquisition agencies have been authorized by Congress to acquire private property for parks, national forests, refuges and for other purposes, but have not been provided with the resources to promptly compensate landowners or adequately manage acquired lands.

The Fifth Amendment of the United States Constitution states that private property [shall not] be taken for public use without just compensation. This premise was one of the fundamental building tenets of our nation and, it should remain so today. However, as a result of federal agencies' interpretations of the Federal Manual for Identifying and Delineating Jurisdictional Wetlands, many

lands that are of marginal ecologic value have been incorporated into the wetlands system, often eliminating or seriously impacting the economic viability of any uses of such lands. This, in turn, is having a negative impact upon housing affordability and the economy.

The NATIONAL ASSOCIATION OF REALTORS® and the nation support a wetlands policy that is environmentally sensitive, yet allows our nation to be economically competitive. The Comprehensive Wetlands Conservation and Management Act of 1991, H.R. 1330 will provide this nation with a law that protects those lands that need to be protected, while allowing our citizens to retain their Fifth Amendment rights of just compensation, under the Constitution. We urge your support of this legislation and the concepts it embodies.

Thank you for the opportunity to express our views.

**STATEMENT OF THE NATIONAL REALTY COMMITTEE  
TO THE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION  
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT  
U.S. HOUSE OF REPRESENTATIVES  
REGARDING  
REAUTHORIZATION OF THE CLEAN WATER ACT**

May 12, 1993

The National Realty Committee appreciates this opportunity to provide written comments on the reauthorization of the Clean Water Act. The National Realty Committee serves as Real Estate's Roundtable for national issues of vital interest to the real estate industry. NRC members are America's leading real estate owners, advisors, builders, investors, lenders, and managers.

The National Realty Committee supports the continued improvement of water quality throughout the nation's water bodies. Over the past twenty years, the Clean Water Act has facilitated significant progress in controlling water pollution, primarily from point source discharges. EPA is now focusing on nonpoint source discharges. Because nonpoint source discharges are based upon specific watershed conditions and precipitation, they are difficult to predict and assess. Although studies have been conducted, the extent and nature of stormwater pollution is unknown. However, it is known that the cost of stormwater pollution control can easily eclipse total expenditures made over the past 20 years to control point sources. Amendments to the Clean Water Act should ensure that the nation's resources are applied to known and valid nonpoint sources water quality problems. They should recognize the need to address these problems on a regional and watershed basis.

Of the many priorities being discussed during the Clean Water Act debate, the municipal stormwater control program and wetland protection program are the National Realty Committee's primary concerns.

## STORMWATER

Section 402(p) of the Clean Water Act established a separate NPDES permit program for municipal storm sewer discharges. In 1987 Congress required a simplified permit program applicable only to cities larger than 100,000 in population. The experience gained during this program was to determine a more comprehensive program to be developed when Congress again reauthorized the Act. However, EPA was late promulgating regulations, which are arguably much broader than originally intended by Congress, including the requirement that construction activities be regulated as an industrial activity. These factors have made it difficult to objectively review the program and determine the best course of action for this reauthorization process.

Our major concerns with the stormwater program are: a general lack of understanding of the specific water quality problems associated with stormwater, and the cost of addressing this undefined problem which will easily eclipse the total expenditures of the past 20 years to control point source discharges.

1. The extent and nature of stormwater pollution is unknown: Despite congressional intent to evaluate a limited stormwater program over the past five years and devise a reasonable program for the future based upon that experience, few communities have actually even obtained a permit. Therefore, Congress will have no history of experience to consider when amending the stormwater control program during reauthorization of the Clean Water Act. Even the Environmental Protection Agency (EPA) admits that the degree to which stormwater discharges are currently regulated in relation to the level of impairment reported is not readily apparent. EPA bases its assertion that stormwater is a major contributor to the remaining water quality problems, on data collected as long as 20 years ago. Since that time, secondary treatment and pretreatment controls have been imposed and illicit hookups have been identified and prohibited. In addition, EPA has taken separate action to control other pollutants affecting stormwater. Lead, which has been banned in gasoline, will certainly result in reductions of lead levels in stormwater.
2. Cost: The cost of stormwater pollution control can easily eclipse total expenditures made over the past 20 years to control point source discharges. The current program is divided into two parts, with permitted communities currently undertaking Part 1. Activities under Part 1 include describing current circumstances, conducting field screening, and developing a control program for Part 2. The American Public Works Association (APWA) of Southern California completed a study in May 1992 entitled "A Study of Nationwide Costs to Implement Municipal Stormwater Best Management Practices." This study surveyed 100 communities and found that the average cost for a Part 1 application was \$332,000. (EPA estimated a maximum cost of \$77,000.) Part 2 costs will be significantly higher as specific programs to control discharges to the maximum extent practicable are implemented. APWA estimates that those costs could range nationwide, depending on the level of control required, from a minimum of \$147 million for capital expenditures and \$1 billion in annual operation and maintenance to over \$406 billion in capital expenditures and \$542 billion for annual operation and maintenance.

Considering the lack of accurate data, the enormous potential cost, and the ambiguous objectives of the current program, the National Realty Committee urges the Committee to adopt the following concepts in amendments to Section 402(p):

1. Regulate stormwater discharges under new nonpoint source provisions rather than under the National Pollutant Discharge Elimination System (NPDES). Stormwater discharges should be removed from NPDES where attainment of water quality standards is mandated. The nature of stormwater discharges is significantly different from point source discharges. For point source discharges attaining numeric effluent limits is possible because flows can be predicted and loadings captured and treated. Stormwater flows, on the other hand, vary with each storm event and by geographic location. This requires a technology-based standard rather than the water-quality based standard of NPDES. Stormwater permits should be permanent, allowing for necessary modification, rather than renewable every five years as is required for NPDES permits.
2. Establish that stormwater permit requirements will be reasonable and technology-based. This is consistent with control strategies employed for other pollutants and will ensure the most cost-effective application of scarce financial resources. This would require that best management practices be applied only to the maximum extent practicable (MEP). MEP should be defined in the statute in terms of technical feasibility, cost/performance, and economically achievable measures:
  - The "cost/performance" relationships should evaluate the increment of pollution reduction achieved as compared to the increase in capital and operation costs. This type of analysis has been used by EPA and individual states for over 15 years in the development of point source treatment requirements and effluent limitation for wet weather flows. The cost/performance relationship also should consider the aggregate water quality improvement and associated costs for all water quality projects implemented within a watershed. The cumulative costs can be significant as programs are implemented by industries, municipal wastewater treatment agencies, mining companies, agricultural enterprises, and other entities that may affect water quality.
  - The "maximum extent practicable" test should consider economically achievable measures. The test for "economically achievable measures" should consider stormwater project costs per household and the cumulative impact on the household when the stormwater project cost is combined with debt service, operation costs, and user fees for other public services. EPA has employed similar tests in CSO guidance and in the CERCLA program.

3. Establish a watershed master plan approach rather than a project-by-project approach to nonpoint source water pollution. Require identification of specific nonpoint source water quality problems and a watershed application of BMPs to address those problems. Some states have already established regional water quality control boards based on watersheds and are in a position to effectively address these problems on a watershed basis.
4. Establish an interactive stormwater control program which requires that "obvious" problems will be addressed first. This will ensure that resources and efforts are expended on the most immediate problems. Initial controls should be limited to level one BMPs identified in the APWA study:

- Illicit discharge monitoring and control programs
- Litter control ordinances
- Animal waste control ordinances
- Chemical use and spill prevention ordinances
- Vacant lot cleanup ordinances
- Recycling programs
- Public education programs
- Street sweeping programs
- Increased maintenance of existing storm drains
- Erosion and sediment control programs
- Removal of abandoned vehicles

Second, the existing water quality database should be updated to represent more recent data since implementation of other programs, such as secondary treatment and elimination of illicit discharges. Third, using the new database, the range of stormwater pollution control measures should be evaluated to determine the technically and economically feasible methods that would lead to cost-effective water quality improvements. Fourth, the stormwater pollution controls should be implemented in phases to ensure coordination with other water quality objectives and implementation of reasonable and cost-effective controls.

5. Municipalities should be able to combine all industrial permits for sites owned and/or operated by the municipality into the jurisdiction-wide program. In addition, construction activities should be excluded from consideration as an "industrial activity." Construction should be regulated as part of the jurisdiction-wide program. This minimizes duplication of efforts and integrates construction activities into the community's comprehensive strategy to control stormwater.
6. Clarify that the prohibition of non-stormwater discharges into a system is intended to prohibit illicit connections and does not include flows that are normally associated with storm drainage systems, such as runoff from landscape irrigation, groundwater seepage, and fire hydrant flushing. This clarification will eliminate the need to develop a separate permit program for these flows which are inherent to all storm drainage systems.

## **WETLANDS**

Federal government efforts to protect the nation's wetlands have become increasingly controversial as "wetlands" have been defined to include areas not previously considered as wetlands, and the regulatory process has grown more complex and subjective. Of particular concern to the real estate community are seasonal "isolated wetlands," those which are not "adjacent" to another "water of the United States" such as a lake or river. Isolated wetlands create problems for real estate developments throughout the nation since they are much more difficult to avoid in the land planning process than adjacent wetlands, which are frequently within floodplains. To be specific, NRC strongly supports the conservation and protection of ecologically valuable land, including wetlands. However, we question both the environmental and economic wisdom of aggressively protecting areas that have minimal or no wetland characteristics or value.

The problems associated with seasonal isolated wetlands are often exacerbated by their relative "dryness" compared to perennial wetlands. Detection is often difficult, and investments are frequently made without knowledge of the extent of such wetlands. Further, regulations regarding isolated wetlands were not promulgated until late 1984, and many landowners have already unwittingly invested in land constrained by such features. We request that any legislation put forth by the Committee address this concern.

The National Realty Committee recommends the following changes in the Section 404 program to protect valuable wetlands while more effectively administering the regulatory program:

1. Allow for replacement and enhancement of wetlands. Clearly, many wetland areas should not be altered at all. However, others can be responsibly altered and the impact mitigated by replacement or enhancement of wetlands. Such actions can actually result in increased environmental values. Mitigation banking should be encouraged in legislation to promote comprehensive wetland protection and enhancement instead of piecemeal avoidance of wetland areas regardless of their quality and environmental value. Recent projects demonstrate that wetlands can be successfully created, and we will be happy to provide specific examples to the Committee.
2. Eliminate the "sequencing" requirement which prohibits the Corps from considering mitigation until avoidance of all impacts and all "practicable alternatives" have been exhausted. This requirement is unnecessarily costly, time consuming, and prevents the consideration of mitigation projects which would provide a net increase in wetland area and values.
3. Definite mitigation standards should be established to replace the subjective mitigation requirements currently employed. Permit applicants must have greater certainty in understanding their obligations to mitigate wetland losses. A reasonable standard should be expressly provided. This would eliminate the excessive demands of resource agencies which are frequently required in the absence of any criteria or standards.

4. Evaluate wetlands by region and value. Differences in regional climatic and habitat conditions require different criteria for determining what is a wetland and what habitat objectives should be pursued. The current use of a uniform nationwide wetland delineation program should be discontinued in favor of a regional approach. Wetlands should be categorized according to value with respect to an overall habitat and the degree of regulation should vary according to that habitat's value. Wetlands of marginal benefit to habitat conservation should not be subject to the same level of review as pristine wetland areas which provide great benefit.
5. The regulatory framework of the Section 404 program should be revised to avoid duplication with state regulations and unnecessary commitment of regulatory resources on minor permits. Delegation of the program to state governments should be encouraged.
6. The present multiple agency approach with conflicting policies and authority should be eliminated and replaced with a program comparable to the Coastal Zone Management Act which will lead to state certification and administration of the program.

#### LAND-USE AUTHORITY

NRC strongly believes that the Clean Water Act in general should preserve the authority of local governments to determine land use. The intent of the Clean Water Act is to provide guidance for controlling water pollution, not to empower federal agencies or the states to conduct project-specific reviews of land uses. The Clean Air Act contains a provision expressly clarifying that nothing in the Act constitutes an infringement on local land use authority. This language specifically prohibits the use of federal environmental regulation as a mechanism by special interests to influence local land use decisions. Because of the potential for such infringement, particularly with a more aggressive control program for nonpoint sources, the Clean Water Act should include such a provision.

We appreciate this opportunity to comment and look forward to working with the Committee to develop balanced and effective programs for stormwater control and wetland protection.

April 29, 1993

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COMMITTEE ON PUBLIC WORKS  
AND TRANSPORTATION

The Honorable Douglas Applegate  
Committee on Public Works and Transportation  
Rayburn House Office Building  
U.S. House of Representatives  
Washington, D.C. 20515

Representative Applegate,

As representatives of faith groups who share a concern for the care of creation, we write to you to formally comment on the pending reauthorization of the Clean Water Act (CWA). We ask that these comments be made part of the formal hearing record on the CWA reauthorization.

As you know, in 1972 the Congress enacted the Federal Water Pollution Control Act which stated: "The objective of this Act is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters (Section 101 (a))." In order to accomplish this objective the Act set six major goals, including the prohibition of "the discharge of toxic pollutants in toxic amounts" and the goal of "water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water."

More than twenty years later, these goals have yet to be realized. By the Environmental Protection Agency's own assessment (1990 National Water Quality Inventory), one-third of the rivers, half the estuaries, and more than one-half of the lakes in the nation do not meet their designated uses, which range from recreation to habitat protection.

There are many reasons why we support a stronger Clean Water Act. Our varied faith traditions all support the belief that the earth is God's and that we are stewards of God's creation. Stemming from this understanding, we embrace the concepts of sustainability and justice for all of God's creation. Thus, we support legislation that will promote sustainable use of creation and legislation that provides for the health and welfare of all beings.

There is much to be done before we can meet these goals, but a strengthened Clean Water Act is one step in that direction. A strong Clean Water Act would:

- provide adequate protection for the remaining wetlands, which 43% of all species that are currently listed by the federal government as threatened or endangered depend upon for at least a portion of their lifecycle (Endangered Species Endangered Wetlands: Life on the Edge, National Wildlife Federation, September, 1992);
- clean unsafe swimming areas and would provide adequate information to people when it is unsafe to enter the water;
- help maintain declining stocks of Pacific Northwest salmonids, where 86 stocks are currently considered at risk of extinction (Willa Nelson, et al., Pacific Salmon at the Crossroads: Stocks at Risk from California, Oregon, Idaho, and Washington, Fisheries, March-April 1991);
- protect our water supplies and help ensure that such outbreaks as the recent cryptosporidia-caused diseases in Milwaukee are not recurring events (The Centers for Disease Control have identified 525 disease outbreaks during the first 16 years after the enactment of the Clean Water Act. The most recent outbreak in Milwaukee is estimated to have affected at least 183,000 people and may be linked to as many as six deaths.);

- reduce the threats from floods in a cost-effective manner by reducing the causes of those floods while at the same time providing riparian habitat, green space, and recreational value;
- safeguard the nation's rich shellfish and seafood ecosystems, which support large commercial, tribal, and recreational values;
- extend protection to subsistence fishers, whether tribes who historically rely on fisheries resources or low-income people who harvest seafood from polluted waters in order to provide a food source;
- and provide jobs for unemployed workers and youth in rural areas such as formerly timber-dependent towns in the Pacific Northwest and urban areas such as Washington D.C. and Los Angeles through the design and construction of treatment works, reforestation of riparian habitat, removing migration barriers, protecting and restoring wetland areas, installing recreational access points and pathways, and replacing large engineered projects with natural flood control mechanisms which also provide ecological value.

These are a number of the reasons why we support reauthorizing and strengthening the Clean Water Act during the 103rd Congress.

Thank you for allowing us the opportunity to provide input into the reauthorization process. We look forward to working with you and the committee to ensure that the many values our water bodies provide are protected in a strong Clean Water Act.

Sincerely,

American Baptist Churches, USA

Homeland Ministries, Christian Churches (Disciples of Christ)

Church of the Brethren, Washington Office

Church Women United

Evangelical Lutheran Church in America, Lutheran Office for Governmental Affairs

Mennonite Central Committee

National Council of the Churches of Christ in the U.S.A.

NETWORK: A National Catholic Social Justice Lobby

Washington Office, Presbyterian Church (USA)

Ministry of God's Creation, United Methodist Board of Church and Society

cc: Rep. Mineta  
Rep. Boehlert  
Rep. Shuster

Santa Clara Valley Water District



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AN AFFIRMATIVE ACTION EMPLOYER

**STATEMENT**

**OF**

**Ronald R. Esau  
General Manager**

**SANTA CLARA VALLEY WATER DISTRICT**

**June 4, 1993**

**Before the**

**UNITED STATES HOUSE OF REPRESENTATIVES  
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT OF THE  
PUBLIC WORKS AND TRANSPORTATION COMMITTEE**

**THE HONORABLE DOUGLAS APPEGATE  
CHAIRMAN**

**Regarding**

**REAUTHORIZATION OF THE FEDERAL  
WATER POLLUTION CONTROL ACT**

**STATEMENT****OF****Ronald R. Esau  
General Manager  
Santa Clara Valley Water District****June 4, 1993**

On behalf of the Santa Clara Valley Water District, I want to thank the Subcommittee for this opportunity to present our testimony. The District and the City of San Jose are the local sponsors for a wastewater reuse and treatment technology program in San Jose, California, which this Committee included for authorization in the Water Resources Development Act of 1992 (P.L. 102-580). Specifically, we are looking to build on that authorization by including funding authority for the rest of the San Jose wastewater reuse and treatment technology program.

**INTRODUCTION**

The Santa Clara Valley Water District (District) is located in San Jose, California, and has responsibilities for both water supply and flood control for all of Santa Clara County. The District was formed in 1929 and currently supplies water to more than one and one-half million residents, numerous businesses, industries, and agricultural interests of Santa Clara County. The highly urbanized northern portion of the County is known as "Silicon Valley" because of the vast computer industry that has developed there and provides employment for over 6 percent of the state's work force. In contrast, the southern portion of the County is primarily agricultural but is rapidly becoming urbanized and increasing in population. The District, in addition to managing three large groundwater subbasins and ten local reservoirs, holds contracts for the importation of water from the California State Water Project (SWP) and the San Felipe Division of the Federal Central Valley Project (CVP). Imported water from the City and County of San Francisco's Hetch Hetchy System also serves a portion of the District.

California, and Santa Clara County in particular, is now recovering from six consecutive years of drought. Nothing in recent history has reminded us more dramatically of the vulnerability of our water supply reliability than this event. The District has been severely impacted over the last several years by significantly reduced local water supplies, by deficiencies in its imported water supply entitlements from the CVP, and by reductions in its imported water supply from the SWP, and other imported water resources as well. Water conservation was first placed in effect in Santa Clara County in 1988 on a voluntary basis but became mandatory in 1989 and continued in place through 1992. With the recent rains, snow, and above-normal runoff, water conservation has once again become voluntary. Even with mandatory conservation levels, the District was required to supplement its limited imported supplies by purchasing over 125,000 acre-feet from the water market during the drought period. However, we believe that future drought conditions, coupled with new federal and state regulatory constraints on our imported supplies, will degrade our area's water supply reliability over the long term. With the passage of the 1992 Central Valley Project Improvement Act and pending San Francisco Bay-Sacramento-San Joaquin Delta water quality standards, the District is faced with significant long-term reductions in its contractual entitlement for imported water. Thus, we must aggressively develop and maximize the availability of our local water resources toward enhanced water supply reliability. This challenge in the Santa Clara Valley area is bolstered by the threat of potential loss of jobs associated with lost business

opportunities and reduction in industrial production associated with long-term water supply shortages of 30 percent or more.

As part of the District's 1992 Water Supply Overview Study, wastewater reclamation was identified as a potential highly reliable source of supply. The anticipated supply of reclaimed water, which has now been estimated to be 32,000 acre-feet per year countywide, has essentially not yet been developed. Less than 1,000 acre-feet per year is currently being used, much of which is being delivered by trucks. While the District contemplates alternatives for long-term water supply options, the City of San Jose (City) is also being requested by the San Francisco Bay Regional Water Quality Control Board to limit the effluent discharging from its San Jose/Santa Clara Water Pollution Control Plant into San Francisco Bay because of the loss and degradation of habitat for federally designated endangered species, and degradation of the Bay's water quality due to heavy metal discharges, as defined in the federal Clean Water Act. Accordingly, the District and the City have joined forces to initiate a wastewater and treatment technology program for the County, which was authorized by Congress through this Committee for federal assistance last year in the Water Resources Development Act of 1992. The joint program between the local sponsors (the District and the City) and United States Environmental Protection Agency (USEPA) will fulfill two objectives: to reduce wastewater discharge into San Francisco Bay and to provide an additional long-term water supply.

### WASTEWATER REUSE PROGRAM

We believe, and Congress has agreed, that the San Francisco Bay is a resource which must be protected and for which there is a federal interest in maintaining in order to protect the fragile ecosystem in the Bay. In addition to national interest and recognition, local efforts are proceeding to maintain the integrity of the Bay, and we in Santa Clara County have made strong commitments to develop programs which not only protect the Bay by reducing wastewater discharge but will assist in improving long-term water supply reliability while not increasing dependence on importation of fresh water from the Bay's Delta estuary. Specifically, the District and the City have entered into a \$2 million cost-sharing agreement to develop a wastewater reuse and treatment program in cooperation with USEPA, which is divided into two distinct areas—a nonpotable water reuse program and a potable water reuse program. The principal reason for these distinctions are the different regulatory requirements and technical issues associated with the two uses proposed. The two areas have further been divided into phases. The agreement between the District and the City is for Phase I work on both the nonpotable and potable programs.

For Phase I of the nonpotable water program a facility plan has been completed. The facility plan consists of a market survey, analysis of the water quality requirements, and the predesign and the treatment processes and distribution system to deliver up to approximately 40-45 million gallons per day (MGD) of reclaimed water.

Last year, Congress recognized the federal interest in proceeding with the local sponsors in developing a water reuse and treatment technology program in an effort to maintain the integrity balance of San Francisco Bay, and as a result this Committee authorized this program at Section 218 of the Water Resources Development Act of 1992 (P.L. 102-580) for San Jose. The authorization provides a partnership between the federal government, the District, and the City in having USEPA provide design and construction assistance directly to the local sponsors in the development of wastewater reuse and treatment facilities for the protection of fish and wildlife in the San Francisco Bay and for critical water supply purposes. This program will have the dual benefit of providing critical environment protection to San Francisco Bay by diverting effluent to be discharged into the Bay, and reclaiming such water for public and private use while providing reclaimed water as a long-term water supply supplement. The

legislation calls for the development of an innovative nonpotable wastewater reuse treatment facility with distribution pipelines, and the development of an innovative potable water pilot plant along with a health study on the performance of the potable plant as a first step. Under a phased-in approach, once the pilot plant is operational, should USEPA and local health agencies determine that the public health requirements, water quality goals and objectives are met, and the community is not at risk by the operation of the pilot plant, USEPA would assist in the development of a potable wastewater reuse facility through design and construction assistance and the extension of distribution systems to groundwater recharge areas.

#### **REQUESTED ACTION**

What we are seeking is to complete the funding authority for the wastewater reuse and treatment program within the reauthorization of the Federal Water Pollution Control Act. The funding authority we are seeking will allow the project to proceed beyond final design and initial construction of the nonpotable reclamation facility and distribution system through completion of construction for this project. The design and construction of the program will be conducted by the local sponsors and funded through USEPA in accordance with the original authorizing legislation. The final design is based on the prior work accomplished by the sponsors including the nonpotable facility plan, the final Environmental Impact Review, and public hearing held during the process.

This funding authority will allow the design and construction for the plan to move forward on schedule bringing the project to completion as a model for other coastal areas who suffer from the twin problems of coastal water degradation and critical water supply needs. Construction of the overall program will also provide needed stimulus to stagnant local employment market. While we have dealt with these issues separately in the past, the truth is that the water quality and water quantity are interrelated and all can benefit by approaching these problems in an integrated fashion.

We urgently request that this funding authority be included in the reauthorization of the Clean Water Act, and we thank you in advance for your consideration.

# IMPLEMENTATION OF THE FEDERAL WATER POLLUTION CONTROL ACT

## (Managing Wastewater in Coastal Urban Areas)

WEDNESDAY, JUNE 30, 1993

HOUSE OF REPRESENTATIVES, SUBCOMMITTEE ON WATER  
RESOURCES AND ENVIRONMENT, COMMITTEE ON PUBLIC  
WORKS AND TRANSPORTATION,

*Washington, DC.*

The subcommittee met, pursuant to call, at 9:30 a.m., in room 2253, Rayburn House Office Building, Hon. Douglas Applegate (chairman of the subcommittee) presiding.

Mr. APPLGATE. I guess we can get our subcommittee meeting rolling here.

And let me just say that the Congress and the Environmental Protection Agency have expressed, over some time, some frustration with the lack of progress in improving the quality of estuarine and coastal waters.

In 1989, the Congress directed the National Academy of Sciences to undertake a study to advise the EPA on opportunities to improve wastewater management policies for coastal urban areas. The study was to consider: environmental objectives, policies, and regulations; technology and management techniques; and systems analyses and design, including environmental modeling.

The National Academy of Sciences recently prepared its report. As our committee prepares to reauthorize the Clean Water Act, we are hopeful that the work of this distinguished group of engineers, scientists, and environmental policy specialists will be of assistance in our deliberations.

Our committee is especially looking forward to discussing with the witness the "Integrated Coastal Management" approach recommended in the study. This report recommends shifting the Federal role in coastal management from prescriptive mandates to partnerships with regional authorities in developing a more efficient coastal management system.

I believe our Members would rather use a partnership approach than a proscriptive approach, but our concern is finding such an alternative approach that will work.

There is likely to be some comment from the Members of the subcommittee on the EPA's implementation of the Section 301(h) of the Clean Water Act which allowed for waivers from secondary treatment. The study's view on this point will also be of interest to the committee.

And normally at this point in time we would yield to our Ranking Member; but, unfortunately, he has been called to the White House. And so we are without a Ranking Member or a Member of the other party here at all.

At this point I would like to insert Mr. Mineta's statement into the record.

[Mr. Mineta's prepared statement follows:]

STATEMENT OF HON. NORMAN MINETA, CHAIR, COMMITTEE ON PUBLIC WORKS AND  
TRANSPORTATION

Thank you Mr. Chairman.

Today, I would like to welcome the witness, William Eichbaum of the World Wildlife Fund, who is testifying on behalf of the National Academy of Sciences.

The Clean Water Act has made significant progress in improving our surface water quality. Although we should all be proud of the improvements to date, there are several areas where improvements are still critically needed. One of those areas and the subject of today's hearings is our coastal marine waters. We are looking forward to the views of the National Academy of Sciences on possible amendments to the Clean Water Act that would lead to a more effective marine protection program.

The history of the Water Pollution Control Programs in the United States should be kept in mind. Before 1972, water pollution controls were water quality based. However, this became unmanageable as our science of monitoring and identifying sources of pollution was too inadequate, too immature, and subject to endless controversy.

In 1972, Congress, believing that the water quality-based pollution control had failed to work, developed a new approach to pollution control. As a first step, the law established a technology-based standard for all municipal treatment facilities known as secondary treatment.

It was acknowledged that in some cases, secondary treatment would be too stringent and in others too weak. But there had been widespread concern that industries would shop around for locations with less stringent standards and lower compliance costs. A set technology standard for all municipalities created a level playing field to discourage shopping for pollution-friendly venues. Only in 1977, did Congress allow a narrow window for waivers under very strict conditions.

Today, there are over 9,000 secondary treatment plants, over 3,000 plants with greater than secondary treatment and almost 2,000 plants with no discharge. Only 868 communities, mostly small, do not have secondary treatment.

I am interested in the witnesses view of the secondary treatment requirement and whether waivers are appropriate again.

We look forward to your comments on this and other marine pollution issues.

Thank you.

Mr. APPELEGATE. At this time, if he so desires, I would recognize the gentleman from California, Mr. Filner.

Mr. FILNER. Thank you, Mr. Chairman. I guess it is good to be a Member of the Minority Party today and get to the White House. I want to thank you for allowing us to have this hearing. I know you had hoped to wind up the hearings earlier. And another day, I know, is an imposition on you and the staff; and I greatly appreciated the ability to consider this report and to see what relevance it has as we authorize the Clean Water Act.

I have a statement that I will just submit for the record, but let me just summarize very briefly.

From the perspective of an urban district which sits on the ocean—I come from San Diego, California—we look at the Clean Water Act as having very impressive results over the Nation but having some problems when applied directly, especially in mandates for wastewater treatment to the particular situation we and other coastal cities find ourselves in.

The Clean Water Act, for example, prescribes a very uniform and technology-based requirement for wastewater treatment. And although that might have been applicable 20 years ago, we have new advances and new understanding which would allow us, I think, to be more flexible but based on the environmental conditions and situations that each area finds itself.

For example, a key standard in defining wastewater treatment goals is BOD, Biochemical Oxygen Demand. Yet when I read the report—and I guess the witness will comment on it—when dealing with open coastal waters, the report says that the depletion of dissolved oxygen is generally not of ecological concern; and yet we are looking at that as one of the standards to judge wastewater treatment facilities.

So it is in that context in which the ICM, the Integrated Coastal Management, approach is so important because it gives us a scientific basis for moving away from the technology-based regulations to an environmental quality and flexible approach.

As the Chairman stated, it allows a partnership between Federal and regional bodies and approaches.

I do not think that the current law is flexible enough to handle situations such as that in San Diego.

I think the recommendations in the study that we are going to hear about today allows us to move in a better direction. One that is not only environmentally sound but more cost-effective and to give local communities flexibility.

No community that I know of—and that includes San Diego—wants to get around the requirements of the Clean Water Act. We don't want to waive the standards. We don't want to lower the standards. We want flexibility in meeting the standards. And I think this ICM gives us a scientific base in which to do that.

I am looking forward to hearing the testimony. And, again, I very much appreciate your providing us with this opportunity.

[Mr. Filner's prepared statement follows:]

#### STATEMENT OF CONGRESSMAN BOB FILNER

I would like to first thank the Chairman of the Water Resources Subcommittee, Congressman Applegate, for convening this hearing to discuss the recently completed National Research Council report: Managing Wastewater in Coastal Urban Areas. The Subcommittee has already held several hearings on the Clean Water Act and I appreciate his willingness to hear today's important testimony.

I think this long-awaited study will provide invaluable assistance to this Committee as we continue the process of reauthorizing the Clean Water Act.

Since its original enactment 20 years ago, the Clean Water Act has been a cornerstone in the Nation's efforts to improve water quality.

The results have been impressive, especially in our lakes and rivers. However, the results in coastal areas are more mixed. As the report states, current law does not address regional variations or allow us to respond to changing needs and improved technology.

The Clean Water Act prescribes uniform technology-based standards—regardless of their applicability to the local environmental situation. A key standard, for example, is Biochemical Oxygen Demand (BOD). Yet, when dealing with open coastal waters, the report states that "the depletion of dissolved oxygen is generally not of ecological concern."

It is in this context that the National Research Council's report and its advocacy of an Integrated Coastal Management (ICM) approach to wastewater treatment is so important. ICM gives us a scientific basis for moving away from technology-based regulations to an environmental quality-based approach. Under the ICM process, "the federal role shifts from that of prescriptive mandate to a partnership with re-

gional authorities in developing a management system that meets coastal-quality objectives."

The increase in population in coastal regions, the changing mix of land use activities, increased environmental awareness, demands for cleaner, more diverse coastal environments and significant advances in scientific understanding of coastal processes—not to mention severe budgetary constraints—all argue for a new approach to coastal environmental management. Current law does not allow us to keep pace with increasing pressures on coastal environments let alone rehabilitate already degraded environments.

I believe the recommendations of this important study provide the basis for amending the Clean Water Act in order to take into account the unique situation of coastal cities. Communities must be given the flexibility to address legitimate environmental problems in a fiscally sound manner.

I am very pleased to be a part of this hearing today and look forward to hearing the testimony.

Mr. APPLGATE. Thank you very much, Mr. Filner.

Mr. Poshard is with us. Do you have anything you would like to say, Glenn?

Mr. POSHARD. I have no opening statement, Mr. Chairman.

Mr. APPLGATE. Okay. Well, in that event, then, we will invite, to the witness table, Mr. William Eichbaum, fresh from a fishing trip. In which you caught what?

Mr. EICHBAUM. A few trout. And returned them all to the water.

Mr. APPLGATE. A few trout. Okay.

#### TESTIMONY OF WILLIAM M. EICHBAUM, ATTORNEY, WORLD WILDLIFE FUND, NATIONAL ACADEMY OF SCIENCES

Mr. EICHBAUM. Thank you very much, Mr. Chairman, Members.

I am delighted to be here today to talk about the committee's report and particularly about some of the ideas and issues that the concept of Integrated Coastal Management raises.

I won't read my prepared statement. You have that. I will just highlight a few points, just say a few words about my background because that really is important to my thinking about these issues.

I have been with the World Wildlife Fund as the Vice President for International Environmental Quality for about three-and-a-half years. But prior to that, I spent about 20 years working in government and environmental protection efforts. And as you were speaking, Mr. Chairman, I was embarrassed to think I actually go back to before there was a Clean Water Act, in its modern form at least.

In that 20 years, I have spent two, 1987 to 1989, working in Massachusetts, the Executive Office of Environmental Affairs, which is fairly directly involved with some of the Boston Harbor issues.

Before that, I spent seven years as the Assistant Secretary for Environmental Programs in Maryland, very involved with all of the work on the Chesapeake Bay. And a lot of that experience is what informs some of the ideas about Integrated Coastal Management.

Prior to that, I worked at the Department of Interior for a few years and then for seven years, from 1970 to 1977, as the Deputy Secretary for Enforcement in the Pennsylvania Department of Environmental Resources.

So I have wrestled personally and professionally and firsthand with a lot of these issues of how do we get clean water; and we aren't there yet, as our committee's report concludes.

The committee's report was focused on coastal problems, and it was focused on those which arise out of urban settings. But many

of the conclusions are more widely applicable. And I think that is important to the consideration that this committee and the Congress is giving now to the reauthorization of the Clean Water Act.

I want to say a few things about what Integrated Coastal Management is. Then I want to say a few things about why it might work now and essentially its analog prior to 1972 did not work. And then I would be happy to answer any questions and get into greater detail.

The concept of Integrated Coastal Management basically is an iterative, continuing planning process. The idea is that it is useful in complex situations where there are perhaps a great—there is a great deal of uncertainty and there are perhaps very expensive choices that need to be made about control strategies.

It is a process which is based on the idea of trying to understand the ecological setting in which problems are being addressed, the ecological importance of sources, and of effects of pollutants and activities, and then understanding cost-effective and implementable management options with respect to those sources and effects of pollutants.

It basically is an iterative, step-wise process which begins with problem definition, taking into account both scientific information as well as human values and expectations. I think that is an important point. We believe what people want is an important factor in the planning process.

It then suggests that that analysis of problems will begin to define an area of concern. And this is an important concept. I think too often we tend to manage our ecological resources by some, either political or arbitrary, definition of a geographic area of concern.

I am always amused that the coastal zone tends to end at the county boundary line that lies along the coast. Or I remember defining, would we draw the line at Interstate-95? Those kinds of considerations have nothing to do with the environment. And so you, based on problem definition, begin to get into an ecological definition of your area of concern. And that, generally speaking—but not always—will be a watershed approach. And I think this is one of the reasons why what we have written about Integrated Coastal Management may be useful in thinking generally about watershed issues.

Having done that, then it is important within that area to look at those problems and sources of those problems which you can understand to be important. Some things are more important than others. Some risks are more significant than others. And it is not useful to spend time on unimportant problems and conversely, where there is a particular issue, such as, let's assume depletion of fisheries resource, if one is going to address restoration of that fisheries resource, you need to address all of the problems which are significant to the decline of the resource.

In Chesapeake Bay, we were concerned about the decline of rock fish, striped bass, not just in the Bay but along the entire east coast of the United States. We did a number of things to address that problem. We worried about pollution issues that might be affecting the spawning reaches for rock fish. We also worried about the fisheries effect on rock fish. As you probably are well aware,

we actually imposed a ban on the possession of any rock fish for about five years. But imposing the ban or just worrying about the pollution or habitat protection—in many cases a single approach is not adequate.

Once one understands those important issues and the things that are important to do to address the issues, it is then important to look at management options. Usually there is more than one way to solve a problem; and it is important to pick the way to solve the problem which is cost-effective, which is technically implementable, and is politically doable.

Right now, in society, we are worrying a great deal about what to do about agricultural sources of water pollution. The agricultural problem is a great deal more complicated than simply dealing with industries or dealing with municipalities, many more sources, much more complex way of introducing the pollutant into the environment, and people that have a much different economic setting than a municipality that can look to a tax or rate base, sometimes not as large as one might like, or an industry that can look to a pricing mechanism for developing the resources.

So picking solutions which can be implemented from a variety of factors is very important. Then, of course, there is the process of implementation and sort of what I view as often the second part of this process that many people forget about, which is to see if what you are doing is working, basically monitoring, evaluation; and this is where this becomes an iterative process. You learn new things. You feed that back into the beginning of the exercise and hopefully make modifications if they are required so that further improvement can be obtained based on what you learn, both from monitoring the environment and its response to your strategies as well as from new science and research.

Now, why is this—first of all, this is not a system or an approach that needs to be used everywhere. As I said at the beginning, it is for complex situations. It is not for simple situations. That is the first point.

Second point, why is this likely to work today when, essentially, the water quality-based approach, which this is, didn't work? That was the reason in 1972 the Congress said let's go to a technology-based approach. And that ended up being secondary treatment in the case of most sewage treatment plants.

Prior to 1972, the water quality-based approach, which was used most places, if anything was used to clean up the water, failed in most places for a couple of reasons, in my judgment. And this is reflected on the committee's discussion.

First of all, before 1972 there was, in most places, a permitting system. There really was not a mechanism by which to implement the results after complex the planning process. That really became—that problem was also corrected by the 1972 act.

Secondly, there were very few mechanisms for enforcement or compliance activity. So there was no inducement from that regulatory commanding control kind of approach to comply with requirements. That was changed with the 1972 act.

Thirdly, there really wasn't very much public interest with grappling with these tough issues prior to 1970 so that the constituency and the consensus for, if you have political decision-making in

water quality control, just didn't exist. And there was finally, probably, not the scientific or the information-management bases to work a complex water quality system in most settings.

Now, there are examples of success. The Delaware River Basin Commission and the restoration of dissolved oxygen levels in the Delaware is a classic example. But they are few and far between.

Well, since 1972, almost all of those deficiencies have been corrected. We now have a strong permit system. We now have a strong compliance and inspection and monitoring system. We now have strong public concern and interest and political leadership on these issues. And the science has evolved a great deal both in terms of its understanding of these systems as well as the capacity to manage the scientific information in a way that is useful for policy decision-making.

So we think that today there is the possibility of adding to—not replacing—of adding to the existing system a dimension which does, in complex situations, build on a water-quality and environmental-standards and ecological-analysis basis. This is very similar to what EPA is talking about with risk-based decision-making and ecological decision-making in the watershed context and elsewhere. And I think it is what a great many of our States insist, one way or another, are already moving to.

With that, I will say nothing further and be happy to address any questions, go into greater detail as the committee wishes.

Mr. APPLGATE. Thank you very much, Mr. Eichbaum.

I just had a couple of questions here, and I wanted to ask you how much funding did the National Academy receive from non-Federal sources as far as this study was concerned.

Mr. EICHBAUM. I have to confess, I don't know the details of the budget for this study. There was support from other sources, as I recall; but I don't have the details. But we can certainly get that for you, Mr. Chairman, with no trouble.

Mr. APPLGATE. Well, I knew that there was—I think, the source of funds came from a number of different directions, as I understand.

Mr. EICHBAUM. In other words, an appropriation from the Congress. I believe San Diego contributed some money. But what the amount was and whether there were others, I just don't have that detail.

Mr. APPLGATE. Okay. The process of Integrated Coastal Management you describe is interesting. Can you take a representative, or even an imaginary, estuary and explain how the process may actually work when the various interests sit down and try to implement a plan to clean up an estuary?

Mr. EICHBAUM. Maybe I can use my own experience as an example and just reflect a little bit on the Chesapeake Bay.

We didn't call what we were doing from 1978 or 1979 through, really today, Integrated Coastal Management; but when you look back that is, in effect, what it was. We did a several-step process.

We, first of all, in a fairly, policy and politically, publicly driven way, made a judgment about what we thought were the most significant problems affecting the Bay. And those emerged as the problems of toxics in the Bay system, the problems of the depletion of oxygen and the disappearance of Bay grasses. And we basically

initiated a period of scientific study of those issues. And in doing that, we developed further the body of information from a science base.

We then integrated that science. And there is a report out of that process which is called the Synthesis Report which was several of the principal scientific investigators with some of the principal policy people involved with the Bay trying to think through what does the scientific material that ends up in the journals that no one ever reads really mean in terms of those three problems?

Now, what we concluded was that, first of all, toxics did not appear to be a very significant problem in Chesapeake Bay upon which to immediately expend a lot of effort. It appeared that the problem of Bay grasses and depletion of oxygen were, in fact, related and that the major issue in the Bay was excessive nutrient loadings to the system, with a whole range of problems that I won't go into.

Now, there were a number of other issues, as I indicated earlier—fisheries issues, land-use problems—because of the pattern of land-use contributing nutrients to the Bay system. But what we did once we got focused on nutrients, we then designed, as I indicated, a set of management options with respect to all of those problems, and we made choices about things to do and things not to do. And I will give you an example of the choice process in the Bay system.

We decided that many of the sewage treatment plants had to go to advanced wastewater treatment, tertiary treatment. Removal of phosphorous and, in selected areas, removal of nitrogen, which was not accepted by EPA anywhere as a cost-effective strategy for water quality improvement. We could only make the case for that based on the science that we had done through an integrated approach looking at the whole system. So the fact of the integrated approach, the watershed approach, drove through a bureaucratic and even a congressionally mandated barrier to a decision to be able to fund sewage treatment plant construction.

We decided not to do a phosphate ban in the first year of the actions on the Bay. We did do that subsequently, but we made a choice that the most significant thing we needed to do was to move for the funding of advanced wastewater treatment. And we didn't want the phosphate ban to be a red herring, if you will, for the funding decision. We subsequently added that to our actions.

Thirdly, we put into place a significant—but I think not yet effective—set of programs with respect to agriculture, including a very substantially increased technical assistance program as well as a financial assistance program to the farm community.

So we made choices about what to do, and we then—there has been a process very extensively of monitoring and evaluating and modifying those requirements. And as you may be aware, in 1987 a decision was made to, in fact, go from a selective reduction at sewage treatment plants and other sources of nutrients to a 40 percent reduction across the board based on what monitoring showed about how we were doing and what more sophisticated models showed about what was required. Again, this capacity to manage this information that we have is so much more powerful today than it was 20 years ago.

And that process is ongoing, and I think that is probably the final lesson. You don't do this, put things into place, and it ends. It is a constant task to restore and then protect.

We have got a situation in which the Bay population is 13 million. It will be 15 million, 18 million, over the next several decades. And if you think about the reality, not only does every new person moving into the Bay have to contribute, intellectually, zero pollution, the existing people have to reduce.

Mr. APPLEGATE. What is the principal source of the phosphorus and the nitrogen?

Mr. EICHBAUM. That is going to vary a great deal from system to system. And that is why in complex situations it is important to take a look.

In the Bay, generally speaking, about 50 percent comes from agriculture and about 50 percent from sewage treatment plants.

Mr. APPLEGATE. Both of them equal?

Mr. EICHBAUM. No. That will change seasonally. It will change annually depending on rainfall. It will vary from watershed to watershed depending upon the degree of urbanization as compared with agricultural activity.

Also there is nitrogen, now a growing appreciation that maybe 25, 20 percent of that in many systems comes from the atmosphere, from sources far removed from the immediate watershed. So it is quite variable.

You need to go through that process, and I will give you a comparison. In the Bay we know that controlling nitrogen coming out of the Susquehanna River is very, very important. If you take a look at Long Island Sound and you look to the Connecticut River flowing into Long Island Sound, you might think that nitrogen is important in the Susquehanna. It is probably important for the Connecticut River because that is the major river flowing into the Long Island Sound.

It turns out it isn't important. The nitrogen coming from the sewage plants in the greater New York area is at a critical control point. So making the same judgment in those two systems—

Mr. APPLEGATE. What kind of plants are those you are talking about?

Mr. EICHBAUM. Sewage treatment plants.

Mr. APPLEGATE. I mean the source of nitrogen. Outside of agriculture if you get into plants—

Mr. EICHBAUM. Automobiles and power plants, fossil.

Mr. APPLEGATE. Nitrogen and phosphorous both?

Mr. EICHBAUM. Nitrogen. There is a small atmospheric contribution of phosphorus which the studies which I have seen, which are several years old now, puts it at less than 10 percent. And when I last looked and asked, air pollution experts people didn't have a guess as to the source. So that is—maybe somebody knows now, but I can't speculate on it.

Mr. APPLEGATE. Well, I have some other questions here, and maybe I will get around to them; but I think at this time I am going to recognize our sit-in Ranking Member, Mr. Horn for whatever it is he wishes to say and to ask.

Mr. HORN. Thank you, Mr. Chairman.

I, just briefly, have one basic question. It obviously is a very thorough report, a very credible organization. You have had a lot of advice.

What I am curious on is: How does that process work within the National Research Council in terms of committee input? The degree to which, say, the basic graph that you and others might have prepared was changed in committee.

What type of a dialogue and corrections goes on, because you did have quite a few experts with whom to consult?

Mr. EICHBAUM. This is the, I guess, third or fourth committee that—fourth committee I have served on of the Academy. I am also a member of the Marine Board, which is one of the management structures. And so I am involved, somewhat, in the oversight of that process that you described.

It varies. But in general, as you point out, there was a committee, I guess, about 14 members, quite diverse, quite different experiences. The committee—typically the committees will meet over a two-, three-year period, anywhere from 4 or 5 to perhaps 10 times. This committee broke into subcommittees early on on three different areas. And we brought in other experts to participate with that subcommittee process.

At the end of that, basically the committee began to divide up responsibility for writing particular parts of the report amongst its members. For example, I wrote Chapter 3 which is the Integrated Coastal Management chapter. And other members wrote either whole or parts of other chapters. I also contributed to other parts of the report.

We basically developed a full draft which was then argued over by members of the committee. And that full draft was essentially completed in the fall of last year. And I can say there were some vigorous debates amongst the members of the committee.

It then goes out for a peer review. And in the case of this committee, I think there were maybe seven or eight or nine reviewers. That review is done. Those comments come back, and the committee really has little responsibility of responding. We either have to say the reviewer didn't know what they were talking about or we didn't know what we were talking about, and we changed our report to reflect that comment.

And, for example, I think in all of the reviewers, there was generally favorable comment on the basic idea of Integrated Coastal Management. But a lot of them said: Why is there any reason to believe it will work now when it didn't work back in pre-1972 or the 208 process in 1972? And there is some language that has been added to the report that suggests some of the differences I outlined initially.

So that process does change and I think usually strengthens a report.

Mr. HORN. So you feel none of your particular sections in Chapter 3, Integrated Coastal Management, were censored in any way? It is simply honing and sharpening some? Perceptions and options available?

Mr. EICHBAUM. Yes.

Mr. HORN. Your chapter ran from page 59 to 69 in the report.

Mr. Chairman, I am going to leave to my colleague from California who lives with this situation daily and reserve time I might have because I am due in another committee meeting at this time.

Thank you very much.

Mr. APPLGATE. We will transfer that time. Thank you very much Mr. Horn.

And at this time, we will extend what balance that you have and whatever time he feels would be necessary to get his points across and ask some questions, Mr. Filner.

Mr. FILNER. Thank you. Both Mr. Horn and I have previously been college professors, so I think each of us have 50 minutes by those rules.

Mr. HORN. So you have got 45 coming, Bob.

Mr. FILNER. Right.

It is going to be brief, and I appreciate your comments and your written statement.

In the preface of the report, Mr. Chairman, by the way, is the outline of who provided the support for this study: from EPA to NSF to NOAA to the National Academy of Engineering and also the City of San Diego and the Boston Society of Civil Engineers.

I know under the terms of the City of San Diego's contribution, after the check was given, there was no further input allowed into the process. And what we were looking for was a scientific analysis of the situation, which I think we got.

Just let me ask you three questions. I will do it all at once and then you can—

Mr. EICHBAUM. Let's see if I can remember them.

Mr. FILNER. And if any assumptions in my questions are wrong, just correct me because you are the expert here.

The Clean Water Act mandates what we have been calling here technology-based requirements for treatment. Secondary treatment is mandated for all sources of discharge.

It seems to me that, the implications of your recommendations is that such mandates do not make sense given our new levels of understanding, and we ought to change that. And I would just like you to confirm—is that correct? Should we change, especially in the coastal areas, the mandate for secondary treatment?

If so, what would a legislative change look like? I note the Chairman was trying to get to this. ICM is a process. What would a legislative mandate look like involving ICM?

I mean, do you say all wastewater treatment have to have an ICM, which does or should be submitted to the EPA to do the following. I am not clear how a legislative proposal dealing with ICMs would look like.

And, third, if you want to get into this at all, from my short time in the Congress, it looks like any attempt even on environmental grounds, to begin to look at amending the Clean Water Act is interpreted as an attack on the Act and weakening of environmental progress.

Is there a way in which we can say we are recommending an amendment without being interpreted as being "political"—where we can use your science and use your analysis in a way in which the political atmosphere is not taken as an attack on environmental progress that has been made over the last 20 years.

So that is my question—if you might respond.

Mr. EICHBAUM. Those are the tough questions. Let me try. And part of this will be my own view, not necessarily the committee's view. These were some of the questions we didn't get to.

First of all, on the question of, are we recommending changing the existing mandate for secondary treatment. That is not recommended specifically in the committee's report. The committee's report does say treatment requirement should be established through an integrated process on the basis of environmental quality as described rather than by technology-based regulations.

Now, the question that begs—and that is on page 8 in the report. The question that that begs is that is good from a science viewpoint; that is good from a technology viewpoint. But looking at the national perspective and legislating a Clean Water Act from these halls, are there still other factors that make sense to have some national system that is a minimum basis?

And we don't address that, but certainly the view back in 1972 and beyond, you needed to make progress on water quality. Where there were issues, the issue of equity amongst communities, the question was just ease of administration and enforcement.

If you had to do Integrated Coastal Management everywhere, we would go backwards. I think that is obvious. So that is not what we are recommending. And some implementable minimum system does seem to me to have to exist. A technology or some other minimum national system is easy to understand. You don't have to go out and hire an engineer or a consulting firm to do a lot of fancy studies. You know what you have to do.

Mr. FILNER. Would you disagree with—

Mr. EICHBAUM. And in the old day this was accompanied by Federal funding.

Excuse me.

Mr. FILNER. Would you disagree with what I said in the opening? For example, one of the minimal standards has to do with BOD and yet the report says it is not relevant to the ocean situations.

Why shouldn't that be changed? Why should we be requiring things that have no relevance environmentally?

The Witness. No, I don't disagree with your opening statement or with that follow-up comment. And I think that that is why we have concluded in the coastal area particularly in complex situations and high-cost situations and situations where there are multiple sources and perhaps things more important than what we are now controlling that we aren't controlling very well that Integrated Coastal Management ought to be done. And if it shows that there are more important things to control to improve the environment, those ought to be done and that there ought to be trade-offs. Those decisions are being made.

Now, again, to look at the Chesapeake Bay, is it most effective to spend a dollar to remove nutrients from a farm or from a sewage treatment plant? And you have the flexibility to do that because it is not—all of those choices are not mandated by the existing Clean Water Act.

So we do think that that is important. How would you—how would it look if you were to try to do it? I don't think it would look like a return to the old 301(h) process.

One of the things that was wrong from the this report with the 301(h) process was it was focused on one pipe. It was not focused on a large ecological system. I don't think it would look like that. I think it would look more like a return to a watershed planning process as was set forth in Section 208 but with some additional requirements which at least would be mandating that the permitting process, the funding process, whatever it was, was tied to the results of the planning process.

One of the things wrong with 208 planning in the 1972 act was that neither permitting nor funding was tied to that process. They were independent. So there was no reason to follow the 208 planning process, and it was not, in most settings, followed. It was done, put on shelves, and that was it.

How do you avoid the problem of looking like you are weakening the act if you do try to do something that provides for more flexibility?

I think this is probably the crucial issue both from the political process of enacting something but also from the implementation perspective. And my—I guess my view is that people have got—if you were going to plan on a watershed or ecological basis and if you are serious about implementing the results of that planning process, then the consequence is probably going to be that some sources will have to be controlled more rigorously than they now are; and some may not have been controlled as rigorously as is now the case.

And if people are not able to intellectually and emotionally make that leap, then it is not even worth doing; it is not even worth putting the language in. We are just fooling ourselves, and we will go through another exercise that spends a lot of time and energy and doesn't get anywhere.

The kinds of choices it seems to me that then become, perhaps, explicit ones that recognize the willingness to make that shift would be to get serious about things like combined sewer overflows, to get serious about the effects of non-point source pollution, go beyond where we are now.

The Pennsylvania General Assembly is considering mandating nutrient management plans for many of its major farms. That is a radical change to the management of nutrients on farmland. It is being made by Pennsylvania for the Chesapeake Bay, which it doesn't even border.

Now, there are a lot of other benefits perhaps for agriculture, so it is doable politically. But those kind of choices have got to be embedded in the decision process to go with watershed or integrated-management approach.

Mr. FILNER. Thank you.

And just one final sentence, since I see our distinguished Chair of the full committee here; I appreciate his support of having this hearing.

The present Clean Water Act, in the view of many communities around the country, mandates secondary treatment which is both very costly and does not seem to make sense environmentally. And if there is a way not to retreat from any of the standards or any of the progress made for cleaning up our waters of this country, that communities such as San Diego can get flexibility in meeting

those standards or making environmental progress but without doing stupid things that are required just because in 1972 we only knew one way to do it, then that is what I am searching for.

And I would hope that somehow we could get that out of the Clean Water Act reauthorization. That in many communities that we don't bankrupt them but we also do things that make more environmental sense than we are doing now, and that is my intention. And if it can be done, I am going to try to do it. I appreciate, again, very much the support of at least giving us a chance to try this, from Chairman Mineta and Chairman Applegate.

Mr. APPLGATE. Well, I thank you, Mr. Filner. And I hope that we can sit down and work together. Whether that is doable and whether we can achieve, that remains to be seen. But you know that we will do our best to work with you. We know that you have an exceptional problem and one that is severe enough, and you have really been at the forefront, and you have doggedly been after both the Chairman and myself to hold these hearings and try to do something to correct that problem. So I give you a great deal of credit for that. And, yes, we will work with you to see if there is any possibility of that.

We are very fortunate, of course, of having our very distinguished Chairman of the full committee with us, as he always shows up in support and always happy to have him here.

Mr. MINETA.

The CHAIR. Thank you very much, Mr. Chairman, for your leadership on this issue and with the involvement of this subcommittee on this very important matter.

I would like to ask unanimous consent to file my statement.

It seems to me, maybe we ought to go back to the original act and have an amendment on there that says fishable, swimmable, and doable. The doable maybe got left out of this whole thing. We have a template in terms of the law.

There is a waiver provision. And even in your study on the side bar, as I can understand it, it really speaks to San Diego's situation. But it doesn't say that San Diego ought to get a waiver.

Would you say that the study concludes that any particular city that does not have a waiver should be granted one?

Mr. EICHBAUM. No, Mr. Chairman. And the reason is the committee really felt that it would—it was beyond its capacity to actually go in and carry out the integrated-management process for a case and actually reach a conclusion. It was probably inappropriate in the case of San Diego and Boston since they were helping to pay.

Whatever we would have said, people probably would have questioned if we had recommended weakening. And, on the other hand, it seemed to be just beyond our ability. So we did not specifically do that.

My own judgment would be that if you might well—and as I said, this is my own judgment; and this is going back again to your question why this is very difficult. I think if you were to go through this process, say, for San Diego and Boston, I think you might well find that, in fact, the requirements at San Diego for the sewage treatment plant might be lower, that there might be other things that do need to be controlled that are not being controlled. And I think in Boston, you would find that you might well have to be

doing more than secondary treatment because of the—and it is because of the very different nature of the circulation systems for those coastal areas.

So a solution that perhaps provides some relief, a statutory solution for San Diego may well—and it is not intellectually honest unless it drives other systems that had not yet achieved water quality objectives which is the problem generally that we have to more strict standards than we are now achieving.

So this is probably not a panacea for doing less. This is probably a panacea or a mechanism for doing more, generally speaking, because we haven't achieved quality objectives.

The CHAIR. But that would only be if we have the available resources to do that. It seems to me we would have to go beyond the \$2 billion in the SRF program in order to do the very thing you are driving at.

Mr. EICHBAUM. Well, I have two comments on that.

One is that, in spite of how poor we like to think of ourselves, we are a very rich country; and it is not a question of whether—it is a question of choices. And if we want to have these resources, we—the water quality and the living resources associated with it, I think we have the wherewithal to choose to do it. But that is a public, slash, political decision-making process.

But the second point I wanted to make, and I think this is—we are continuing to look at these issues in a variety of processes of the committee; and we just held a meeting last month at Stony Brook for three days on the eutrophication part of it, which we are really talking about eutrophication of coastal areas.

Number one, we concluded this is the most serious problem in our coastal areas.

Number two, there probably are a lot of things that can be done about it that are more cost-effective and have other benefits than we have yet thoroughly explored. I mentioned the agricultural issue. If you don't put nutrients on the farm, you save money. If you put them on wisely, only enough for the crops to take up, you are more efficient as a farmer.

I was actually astounded we had an expert from a consulting firm come and talk about benefits and costs. And it was news to me that there were maybe some options here we are not creatively looking at yet. We need to push that envelope.

Mr. FILNER. Would the Chairman yield for a question.

The CHAIR. Surely.

Mr. FILNER. The implication of your question was that if we move in this direction, somehow the costs would even be higher.

In San Diego's case, we believe that the reverse would be the case. Because the requirement for secondary treatment decreases capacity, you have to build additional plants which are very expensive which would prevent us from doing, for example, reclamation, tertiary treatment in some other places.

So we are trading off a demand, a very expensive demand for secondary treatment—if we do that, we cannot do something that is worth probably more in our area, which is reclamation which turns out to be cheaper because of associated other costs with going to secondary. We believe that there are certain situations—and

each case is different—where the environmentally progressive thing also is cheaper.

The CHAIR. Let's say, what do we do with some communities—I don't want to characterize, let's say, Boston and San Diego, in terms of just focusing on those two—but we have a lot of communities across the country that have taken the 1972 law very seriously, and they have bellied up to the bar and made investments in their own plants.

If I were to take Boston and say they dragged their feet during the time the grants were available and now that the grants program is gone, we get into the SRF program; and now their problem is so big, all their costs, water costs, everything are going up. The question is how do you make sure that there was compliance with the law and that is very costly?

Or we have to give them relief in some way by either administration action or by making the pot bigger so that they can now come forward to be able to do the necessary treatment.

It seems to me those communities that have taken the 1972 law seriously, in effect, feel holy cow, you know, now the laggards are the ones who are getting rewarded. And it seems to me it puts us in a very difficult position.

How do we make sure there is compliance without—giving you an example, on the other hand, when I was mayor of San Jose, one of the things I wanted to do was to go to an advanced secondary and went from roughly 90 MGD to about 120. Subsequent mayors took it up to 145 I understand. Then we went to tertiary. So today we are at about 150 MGD. I know in 1971, as mayor, I had to go to the community for sewage treatment, airport development, water and sewer, neighborhood parks, branch libraries, and went with the \$287 million bond issue; got the two-thirds vote in the community; and got the bond measure passed.

Now we have a tertiary plant, and the San Francisco Bay Regional Water Quality Control Board is saying to San Jose, what you are discharging into San Francisco Bay is too clean, and you are now turning the salt water brackish. Hello? And so now we are going—now what are we going to do?

And this is really a good solution, I think, in terms of industrial cooling and in terms of agriculture—not agriculture, but in terms of irrigation and for groundwater recharge using the water from the tertiary plant. But that plant is also going to cost around \$350 million to do that.

You know, I see this where a community like San Jose has really bellied up to the bar to do what it thinks is right for its own citizens in cleaning up the environment.

Then there are others who have been dragged to the starting line kicking and screaming. And I just wonder, what is it that we can continue doing in the law that keeps people moving forward, including if they purposely tried to drag their feet?

And frankly I am not sure I have much sympathy. And so I think what we are trying to do now in the new law is to say watershed is the way to go. Ten years ago you couldn't even get a discussion on watershed as a definable or an approach. But now we seem to be using watershed as the approach. This whole issue of non-point source is going to be a very big, I think, emphasis that we are

going to find this time. And this thing about nutrient management on farms probably fits right in with that. But it seems to me we just can't back away from pushing people, communities, in that forward position.

If, let's say, the kelp beds are being affected, if that is the case, I suppose the question is, should we allow, at this point, then, for new applications for waivers; or should old cases be reopened for waivers?

Is that an issue that we ought to be dealing with today?

Mr. EICHBAUM. Well, in our judgment, we felt that we would not recommend that the 301(h) waiver process be reopened.

And I said earlier, perhaps before you were here, that the 301(h) waiver focused on an out fall, a point, and what was happening around that point. It didn't look at the ecological system. Whether that the watershed or the defined coastal area and look at the entire set of issues and problems there and reach a conclusion that based a holistic and integrated approach to the collection.

We wouldn't say go back to the old 301(h) process. We might well conclude if you went into the Integrated Coastal Management that you might make different choices that are being mandated today without it.

But I think you are right, the problem of appearing to reward the laggards is a serious one. And in some ways—but I think the way around that is what I said earlier. We have to—if we look at why is our water quality not improving as rapidly as we would like it to even though we made tremendous progress in 20 years at sewage treatment plants nationwide, at industrial sources—I mean metals are down by 90 percent, but the responses are not coming back generally in response to that.

What are the other things that we are missing? And does an integrated or watershed approach give us a vehicle to get at those other things more efficiently, more effectively, like as you pointed out, agriculture, like the development process?

I mean, I always think—you know, we all—I mean, think about where you live and how close is the newest body of water? It is probably a quarter of a mile away or closer. And what kind of shape is it in? It probably isn't in very good shape. I mean, this is a system that built arteries and connectivity and the fragilest part of it up in the watersheds we are destroying. We haven't changed that.

And if we begin to make some sort of real commitment to that part of the problem, as a Nation, I think then people might be willing to say, well, all right you don't have to spend the last buck to get the last drop of this at this point source because we know that is really not as important as some of the other things we are doing; and now we are going to address those. That is my view.

The CHAIR. Well, thank you very, very much, really, for your contributions that you have made in the past. I know that we will continue trying to pick your brain on this issue. So thank you very, very much.

Thank you, Mr. Chairman.

Mr. APPLGATE. Thank you, Mr. Chairman.

Mr. MENENDEZ.

Mr. MENENDEZ. Thank you, Mr. Chairman.

I'm sorry I got here a little late. But I did read your whole testimony, and this six subject matter is of interest to me.

I represent a district in New Jersey that goes along the northern New Jersey coast along the Hudson River waterfront immediately in front of midtown Manhattan. It has the Arthur Kill, Newark Bay, and is probably one of the most active industrial waterways in the Nation.

Before I came to Congress, similar to our committee chairman, I was a mayor. One of the things that we faced with the Clean Water Act was—and we were one of those who did belly up to the bar—was the rate shock. Part of that rate shock undermined the public support which we fully had before.

The issues that you raise in terms of source control, and Integrated Control Management are very important because this uniform threshold does not give recognition to the diversity that obviously exists throughout the country which is a problem.

You know some of the rigidity that we saw, for example, when originally our plan was approved—and this was prior to me being involved—which called for sludge incineration. Since that point, we found better reuse opportunities. But, we had a hell of a time convincing the EPA of that. In fact, we could still live within the time frame they wanted for completion but by moving away from incineration into some form of beneficial reuse. Pelletization or something like that.

Rigidity is a problem. A regional consortium was created at one of these sewage plants because several older communities didn't have their own individual plants. One of the managers was telling me that, based upon the effluents that were going in to reach the levels of attainment, they would be better off further polluting the water to reach the percentages. This was truly ironic because the proper process that had been approved by EPA would not have met the attainment levels. In such an area you would think that source issues would be a very major point of concentration, but we really don't have that flexibility right now under the law.

I think what you suggest is of great importance, and the Chairman was talking about giving people some type of relief. Here is a bill out there, introduced by Mr. Studds, which would allow people to deduct sewer and water fees and eliminate the ability of large companies who pollute the environment to write it off as a cost of doing business.

I think that is an excellent way to provide relief to the middle class taxpayer. We should let our citizens who have supported cleaning up the environment and improving water standards be the ones to get some relief from the rate shock. The major companies who don't reach out for source control and other initiatives that would produce it, do not deserve relief.

I commend your work, and hopefully the committee will look at some of the issues you have raised as some viable options in a re-authorization plan.

Mr. EICHBAUM. If I could just make one comment on that. I think your—I am aware of the proposal that Chairman Studds is working on. And while it may not be the precise solution, I think the Federal Government has to get back in the business of providing financial support to this process because if, for no other reason, the rate

shock question—the psychology of the rate shock, not the reality in that sense, and I think looking at creative mechanisms which Chairman Studds is trying to do to fund that.

So it comes from some source other than the general revenues is important. And my view would be tying that to the integrated approach you then begin to build a fairly powerful kind of management tool that can help these communities move forward, doing the right thing efficiently.

Mr. MENENDEZ. Thank you, Mr. Chairman.

Mr. APPLGATE. Thank you very much.

And the Chair can certainly appreciate the problem that Mr. Menendez speaks of. And we certainly will be talking with you and working with you on these problems and certainly with Mr. Eichbaum who has been an excellent witness. And as the chairman said, we will be picking your brain for a lot of various reasons.

Mr. EICHBAUM. It would be delightful to be any help we can be.

Mr. APPLGATE. I am sure that you will.

Mr. Filner.

Mr. FILNER. Just briefly Mr. Chairman.

Thank you again. Thank you for your expressions of help at least to try to look at all this. Chairman Mineta, I think, gave a very frank and moving description of some of the resistance to opening up this process. And I wanted to certainly make no defense for any past actions for the City of San Diego which, of course, I had nothing to do with.

The present governor of California, by the way, was the mayor who was dragging his feet on this thing. But I don't think that past problems or the fact that other cities did have to belly up should mean that things don't make sense are imposed on others.

And, financially speaking, I think the ratepayers of my city assumed that they were going to pick up the cost of this, that there is no more Federal grants or loans. And the question is: Are they going to pick up the bill for a \$10 billion project including financing costs? Or can we get it to \$5 billion?

And that is the issue, not that someone is going to bail us out for past foot dragging. We take the responsibility. And the ratepayers, I think, understand that. And the question is for us, as Representatives, is can we at least make that a justifiable expense instead of not a justifiable expense.

Again, thank you for this morning, Mr. Applegate.

Thank you, sir. And we will be looking forward to further discussions.

Mr. APPLGATE. Thank you very much, Mr. Filner.

And I know you have a very serious problem, and you are certainly not trying to shirk it. Not trying to circumvent any part of it; but to meet your responsibilities, at least San Diego, is—and I am sure, as I am also a believer in perseverance always pays off. Somehow or other we are going to get this worked out. Maybe not necessarily to your total satisfaction. We are going to get something worked out.

And as I said before we will be working with you on this. And thank you very much, Mr. Eichbaum, again, for being with us. And we will be looking forward to meeting with you again.

Mr. EICHBAUM. Thank you.

Mr. APPLGATE. With that, the meeting is adjourned.  
[Whereupon, at 10:47 a.m., the subcommittee was adjourned.]

PREPARED STATEMENT SUBMITTED BY WITNESS

HOUSE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATIONSUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENTSTATEMENT OFWILLIAM M. EICHBAUMJUNE 30, 1993

My name is William Eichbaum and I am an environmental attorney and public policy expert, currently with the World Wildlife Fund. Previously, I held executive positions, managing environmental programs in both the Commonwealth of Massachusetts and State of Maryland. I was recently involved as a member of a committee of the Water Science and Technology Board of the National Research Council (NRC) that studied ways to more efficiently manage wastewater entering our coastal environment. The result of that effort, Managing Wastewater in Coastal Urban Areas, has recently been released. At Chairman Applegate's invitation, I am here to present some of the findings and recommendations contained in the report.

More than a third of all Americans live along a coast, usually in urban areas. Every day, more than 1,400 wastewater treatment plants in U.S. coastal cities discharge 10 billion gallons of treated effluent. Annual treatment costs are between \$1.1 billion and \$1.8 billion. Another 11.3 billion gallons of treated industrial wastewater and spent cooling water is discharged by approximately 1,300 industrial facilities.

In addition, non-point sources of pollution, including urban and agricultural runoff, are a growing problem. Pollution can also come from outside the coastal region--from towns, farms and factories adjacent to rivers flowing to the coast. There are other human activities that can affect coastal marine systems. For example, increased irrigation by farmers can reduce the amount of freshwater flowing into estuaries and over fishing can alter the ecological balance in marine waters.

Current wastewater and stormwater management policies are rooted in the 1972 amendments to the Federal Water Pollution Control Act, reauthorized in 1977 and 1987 as the Clean Water Act. The 1972 legislation asserted authority over the quality of

navigable waters such as rivers, lakes and coastal waters. It required establishment of uniform minimum standards for municipal and industrial wastewater treatment, set strict deadlines for compliance, and provided federal funds to help pay for newly required projects.

Under the statute, efforts to protect coastal water quality have focused mainly on regulating city sewer systems and other single-point sources of pollution such as industrial plants. This approach has produced rapid and effective improvements in water quality in many areas, particularly lakes and rivers. However, the law's uniform requirements have not allowed a process that adequately addresses regional variations in environmental systems around the country, or that respond well to changing needs, improved science and more complete information.

To more effectively protect coastal waters from pollution, the nation must begin moving towards a more flexible integrated management approach that takes into account the full range of factors that affect coastal pollution and efforts to control it. The recently released NRC report recommended a more comprehensive approach to managing coastal waters called, "Integrated Coastal Management" (ICM). Broadly speaking, ICM aims to protect coastal ecosystems while recognizing the importance of human activities such as boating and commercial fishing. Under this approach, the report says, ". . . the federal role in integrated coastal management shifts from that of prescriptive mandates to a partnership with regional authorities in developing a management system that meets coastal-quality objectives."

The authors of ICM suggest several modifications to the Clean Water Act and the Coastal Zone Management Act, including establishing a "National Coastal Quality Program" as a supplement to the National Estuaries Program. The coastal program should include an integrated planning and permitting process, as well as an "Iterative Action Plan" to supplant Comprehensive Conservation and Management Plans.

The study identifies several key issues that both planners and legislators must consider when thinking about wastewater management. Many of these issues are not effectively addressed by current clean water strategies and point to the need for an

integration of functions among many agencies including storm and wastewater agencies, water supply agencies and agricultural agencies:

**Treatment Levels.** The cost and complexity of treatment are major factors that can vary greatly from area to area. Regional environmental and health concerns also vary. Wastewater treatment levels and related management concerns need to be guided by water quality needs rather than by technology-based regulations.

**Excess Nutrient Enrichment.** Nitrogen and phosphorus, from both point and non-point sources can deplete dissolved oxygen, resulting in fish kills, algal blooms, and other environmental problems. Secondary treatment of wastewater does not remove significant amounts of nitrogen.

**Source Control.** These efforts can supplement treatment, avoiding problems before they occur. Source control of pollutants, which is an effective tool for managing both point and diffuse pollution sources, should be strongly encouraged by incentives and regulations. In some cases, for example, tactics such as erosion control may be more effective and cheaper than wastewater treatment of reducing the particulate level of waters flowing into a coastal region.

**Stormwater and Combined Sewer Overflows.** In many cities, combined collection systems that carry both stormwater and city sewage may overflow. Building new facilities, however, is expensive, and conclusive scientific data on the overflow problem is lacking. Without more research, proposals to legislate technology-based requirements for systems are likely to fail.

**Evaluation and Feedback.** Management plans must be flexible enough to allow for changes and improvement.

Our ability to manage wastewater in coastal areas has improved greatly over the past decade because of advances in science and engineering. The authors of Managing Wastewater in Coastal Urban Areas believe that the concepts set forth in "Integrated Coastal Management" take advantage of our more advanced and creative technical capabilities and offer a better way to both use and protect our coastal environment.



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